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Timber Resource of Wisconsin's Southeast Survey Unit, 1983

John S. Spencer, Jr.

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CONTENTS

	Page
Highlights	1
Appendix	2
Accuracy of Survey	2
Survey Procedures	2
Comparing Wisconsin's Fourth Inventory With the Third Inventory	4
Log Grade	4
Tree Species Groups in Wisconsin	8
Metric Equivalents of Units Used in This Report	8
Definition of Terms	8
Tables	13

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Information contained in this report includes the most commonly used Forest Inventory and Analysis statistics. However, additional forest resource data can be provided to interested users. Persons requesting additional information that can be provided from the raw inventory data are expected to pay for the retrieval costs. These costs will vary depending on the complexity of the request, from less than $100 for a relatively simple request to $2,000 for a complex retrieval involving the services of a Forest Inventory and Analysis computer programmer. If requests for data conflict with ongoing Forest Inventory and Analysis work, they will be scheduled so as to minimize the impact on the work unit.

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Area served: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, eastern South Dakota, Wisconsin.

FOREWORD

Forest Inventory and Analysis (FIA) is a continuing endeavor as mandated by the Renewable Forest and Rangeland Resources Planning Act of 1974. Prior inventories were mandated by the McSweeney-McNary Forest Research Act of 1928. The objective of FIA is to periodically inventory the Nation's forest land to determine its extent, condition, and volume of timber, growth, and depletions. Up-to-date resource information is essential to frame intelligent forest policies and programs. USDA Forest Service regional experiment stations are responsible for conducting these inventories and publishing summary reports for individual States. The North Central Forest Experiment Station is responsible for forest resource evaluation in Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, eastern South Dakota, and Wisconsin.

Fieldwork for the Wisconsin Statewide forest inventory was begun in the summer of 1981 and completed in late 1983. Reports on the three previous inventories of Wisconsin's timber resource are dated 1936, 1956, and 1968.

More accurate survey information was obtained during the 1983 survey than otherwise would have been feasible because of intensified field sampling. Such sampling was made possible by additional funding and field personnel provided the North Central Station by the Wisconsin State Legislature through the Department of Natural Resources. Data from the Departments' canvass of all primary wood-using plants in the State was used to help estimate the quantity of timber products harvested in Wisconsin.

Aerial photos used in the Southeast Unit Forest Inventory were furnished by the Wisconsin Department of Natural Resources and the USDA Agricultural Stabilization and Conservation Service.

TIMBER RESOURCE OF WISCONSIN'S SOUTHEAST SURVEY UNIT, 1983

John S. Spencer, Jr., *Principal Resource Analyst*

HIGHLIGHTS

Forest Area

- Forest land amounted to 937 thousand acres in 1983 (12 percent of the land area), compared with 930 thousand acres in 1968.
- Commercial forest land increased from 904 thousand acres in 1968 to 909 thousand acres in 1983.
- Nonindustrial private owners account for 89 percent of the commercial forest area.
- Productive-reserved forest land increased from 11 to 25 thousand acres between 1968 and 1983--primarily because of the addition of State-owned natural and scientific areas and county parks.
- The oak-hickory forest type is the most extensive with 293 thousand acres, followed by the maple-birch and elm-ash-soft maple types with 234 and 200 thousand acres, respectively.
- The red pine and white pine types nearly tripled in area between 1968 and 1983, but the aspen and paper birch types declined by more than one-third.
- Door County contained the largest area of commercial forest, 106 thousand acres--up 10 percent from the 96 thousand acres in 1968.
- Sawtimber stands predominate with 54 percent of the commercial area, up 30 percent from the 1968 area.
- The area of seedling-sapling stands declined 34 percent between inventories, but poletimber stands remained at about the same level, as the outgrowth of trees into sawtimber size almost equaled the ingrowth from sapling-seedlings.
- Average site index for commercial forest land is 63 feet at age 50.
- Average basal area per acre of growing-stock trees is 83 square feet.
- Plantations, primarily red pine and white pine, occupy 32 thousand acres.

Timber Volume

- Volume of growing stock increased from 664[1] to 908 million cubic feet between 1968 and 1983, a 37-percent gain.
- Hardwoods (772 million cubic feet) account for 85 percent of the growing-stock volume; softwoods (136 million cubic feet) account for 15 percent.
- Softwood growing-stock volume increased 75 percent between surveys, and hardwood volume gained 32 percent.
- The white oaks led all other species groups in 1983 in growing-stock volume with 110 million cubic feet, followed by select red oaks (77 million), northern white-cedar (75 million), white and green ash (72 million), and hard maple (69 million).
- Average growing-stock volume per acre in 1983 was 999 cubic feet, compared with 734 cubic feet in 1968.
- The volume of rough and rotten trees (148 million cubic feet), short-log trees (56 million), and salvable dead trees (14 million), together with the volume of growing-stock trees (908 million), total 1,126 million cubic feet.
- Sawtimber volume amounted to 2,774 million board feet[2] in 1983.
- Door County had the largest growing-stock volume (120 million cubic feet), but Dane County had the largest sawtimber volume (323 million board feet).
- Two-thirds of the sawtimber volume is in trees with grade 3 butt logs.
- Nonindustrial private parties own 89 percent of the growing-stock and sawtimber volumes.

Stand Conditions

- Net annual growth of growing stock on commercial forest land amounted to 23.4 million cubic feet in 1982, a 28 percent increase from the 18.3 million cubic feet in 1967.[3]

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[1] *1968 growing-stock volumes have been adjusted from those published after the 1968 survey to conform to 1983 volumes because of changes in volume equations.*

[2] *International ¼-inch rule.*

[3] *1967 growth figures have been adjusted from those published after the 1968 survey to conform to 1982 volumes because of changes in Survey procedures and volume equations.*

- Average growth rate in 1982 was 2.6 percent of growing-stock inventory, compared with 2.8 percent in 1967.
- Growing-stock growth per acre averaged 25.7 cubic feet in 1982, compared with 20.3 cubic feet in 1967.
- Annual mortality of growing stock amounted to 9.3 million cubic feet in 1982 (1.0 percent of inventory).
- The mortality rate for softwoods, with generally younger trees, is 0.5 percent of inventory, but the hardwood rate is 1.1 percent.
- Disease accounted for the largest share of the known causes of mortality.
- Diseases of elm, chiefly Dutch elm disease, were responsible for 89 percent of the disease-caused mortality.

Timber Use

- Timber removals from growing stock totaled 8.1 million cubic feet in 1982, compared with 9.1 million cubic feet in 1967.
- Softwood removals were 43 percent greater in 1982 than in 1967, but hardwood removals were 15 percent lower.
- The oaks accounted for 38 percent of total removals in 1982.
- Eighty-one percent of total growing-stock removals was harvested for roundwood products--chiefly saw logs and fuelwood. Another 13 percent was "other" removals and the remaining 6 percent was logging residue.
- The volume of wood residue from primary wood-using plants in 1981 was 2.4 million cubic feet, 99 percent of which was used.

Biomass

- Greatest yields of live tree biomass are in the oak-hickory forest type (80 green tons per acre), the maple-birch type (79 tons) and the red pine type (70 tons).
- Live tree biomass (trees larger than 1-inch d.b.h.) totaled 62 million green tons in 1983, an average of 68 tons per acre. Almost half of this is in the boles of growing-stock trees.

APPENDIX

Accuracy of Survey

Forest Inventory and Analysis information is based on a sampling procedure designed to provide reliable statistics at the State and Unit levels. Consequently, the reported figures are estimates only. A measure of reliability of these figures is given by sampling errors. These sampling errors mean that the chances are two out of three that if a 100-percent inventory had been taken, using the same methods, the results would have been within the limits indicated.

For example, the estimated growing-stock volume in the Southeast Unit in 1983, 908.2 million cubic feet, has a sampling error of ± 5.88 percent (± 53.4 million cubic feet). The growing-stock volume from a 100-percent inventory would be expected to fall between 961.6 and 854.8 million cubic feet (908.2 ± 53.4), there being a one in three chance that this is not the case.

The following tabulation shows the sampling errors for the 1983 Southeast Unit Forest Inventory:

Item	Unit totals	Sampling error
Growing stock	(Million cubic feet)	(Percent)
Volume	908.2	5.88
Growth	23.4	9.10
Removals	8.1	38.74
Sawtimber	(Million board feet)	
Volume	2,774.4	6.69
Growth	77.3	9.77
Removals	27.9	43.09
Commercial forest land	(Thousand acres) 909.2	0.42

As survey data are broken down for areas smaller than a Survey Unit, the sampling error increases. For example, the sampling error for growing-stock volume in a particular county is higher than that for total growing-stock volume in the Unit (table 66 shows the sampling errors for estimates smaller than Unit totals).

Survey Procedures

We used a two-phase sampling design for the 1983 Wisconsin survey. This sampling scheme and associated estimators are similar to sampling with partial replacement (SPR) in that randomly located plots were available for remeasurement and new randomly located plots were established and measured. Major improvements in the new Wisconsin design were stratification for disturbance on the old sample and use of a growth model to improve regression estimates made on the old undisturbed forest plots. The growth model used was the Stand and Tree Evaluation and Modeling System (STEMS).[4]

The major steps in the new survey design were as follows:

1. The first phase of the survey was to interpret aerial photos. In this phase two sets of random points were located on current aerial photographs: a set of

[4]*For more information on STEMS, see: Belcher, D. L.; Holdaway, M. R.; Brand, G. J. A description of STEMS: The stand and tree evaluation and modeling system. Gen. Tech. Rep. NC-79. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station; 1981. 18 p.*

new photo points and a set of relocated old photo points (ground plot locations from the previous inventory). In all, 45,454 1-acre points, including old ground sample locations, were systematically distributed across aerial photos of the entire Unit. These points were classified into land classes as shown below to make a preliminary estimate of forest area. Next, a total of 5,703 of these points were stereoclassified as to stand-size class and density. Finally, 3,118 points were examined on the ground to correct the preliminary area estimate for errors in classification and for actual changes in land use since the photos were taken.

Land class	Photo points classified	Photo points stereo-classified	Inventory plots checked
Forest land	5,432	5,432	374
Unproductive/reserved forest land	208	208	27
Nonforest land			
with trees	63	63	1
without trees	38,052	0	2,639
Water	1,699	0	77
Total	45,454	5,703	3,118

2. The second phase of the survey was to sample ground plots. The plot selection and measurement procedures are outlined in figure 1.

From the new photo points, a random sample of ground plots was established and land use, volume, mortality, and cutting were recorded. At each forest ground plot location, variable-radius plots (basal area factor 37.5) were established at 10 points uniformly

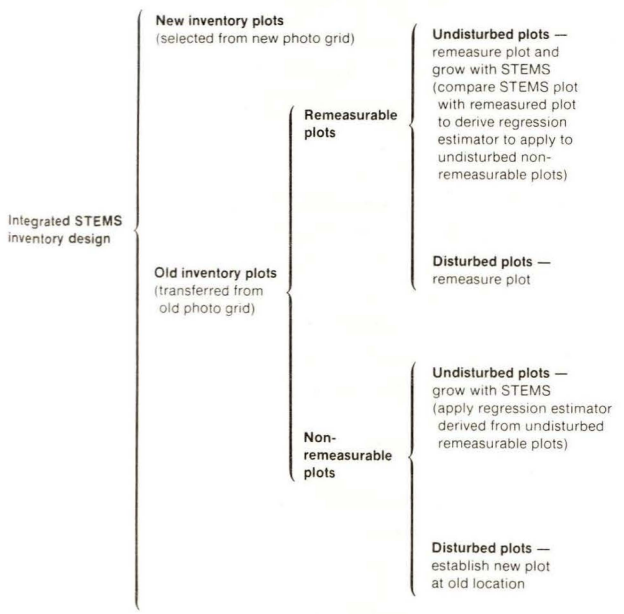
Integrated STEMS inventory design
New inventory plots (selected from new photo grid)
Old inventory plots (transferred from old photo grid)
Remeasurable plots
Non-remeasurable plots
Undisturbed plots — remeasure plot and grow with STEMS (compare STEMS plot with remeasured plot to derive regression estimator to apply to undisturbed non-remeasurable plots)
Disturbed plots — remeasure plot
Undisturbed plots — grow with STEMS (apply regression estimator derived from undisturbed remeasurable plots)
Disturbed plots — establish new plot at old location

Figure 1.—*Logic structure for the 1983 Wisconsin sample design.*

placed over the sample acre. These locations were permanently marked for future remeasurement.

We used a somewhat different procedure on the old inventory photo points (old plot locations). Old plots were either remeasurable (permanently marked) or nonremeasurable (not marked and thus difficult to relocate). Within both of these groups, old plots were additionally identified as undisturbed or disturbed. The remeasurable old inventory photo points that are classified as forest undisturbed were remeasured on the ground to obtain current land use, volume, growth, and removals data. Additionally, all forest undisturbed remeasurable plots were projected to the current time using STEMS to estimate current volume and growth. Comparing the projected and observed values on these plots provided regression estimators to adjust the projected values of the undisturbed nonremeasurable plots. All disturbed remeasurable plots were remeasured on the ground to assess changes since the last inventory.

Disturbance as used here refers to any change on a plot that can be detected on aerial photos and that the STEMS growth processor cannot predict, such as catastrophic mortality, cutting, regeneration, and land use change.

The nonremeasurable forest points are those that were not permanently marked during the 1968 inventory but played a crucial role in the new survey design. The nonremeasurable undisturbed forest points were visited on the ground at the time of the last survey and, following careful examination of both past and current photographs, it was determined that nothing happened that STEMS was unable to simulate. STEMS was then used to update the old plot and tree data. Thus, these points became ground plots even though the information was obtained without actually visiting the plot. The plot record for each updated plot was sent to the field for verification of current ownership information. For points classified as disturbed, a new ground plot was established as close to the old location as possible. This allowed information about land-use trends to be recorded even though the old plot could not be exactly relocated for remeasurement.

The estimation procedure for computing statistics from this sampling design was more complicated than the simple two-phase estimation procedure used in the past. In fact, this procedure yielded two independent samples, one coming from the new photo points and the other from the old photo points that were remeasured or projected. A more detailed description of the sampling design is available in a separate publication.[5]

3. Statistics on timber utilization during 1981 were obtained from mill surveys. The Wisconsin Depart-

ment of Natural Resources canvassed resident sawmills, veneer mills, and other primary wood-using plants. The North Central Forest Experiment Station canvassed out-of-State sawmills, pulpmills, and veneer mills to determine their use of Wisconsin timber. Fuelwood and fencepost output was based on a random sample of households and loggers to determine their production of fuelwood and fenceposts. Estimates of primary mill residue used for fuelwood were obtained from the canvass of Wisconsin primary wood-using plants.

4. More than 2,500 felled trees on 133 active logging operations were measured throughout the State during 1981-1982 to develop wood-utilization factors for converting timber products output to timber removals for saw logs and pulpwood. Factors for all other products were obtained during the 1966-1967 Wisconsin utilization study.

5. Field data were sent to St. Paul, Minnesota, to be processed and analyzed.

COMPARING WISCONSIN'S FOURTH INVENTORY WITH THE THIRD INVENTORY

Data from new forest inventories are often compared with data from earlier inventories to determine trends in forest resources. However, changes in procedures and definitions between surveys often make it necessary to adjust earlier survey data so that they are comparable to data from the new survey. A consistency check was made for each Survey Unit in Wisconsin to ensure that the changes observed between inventories reflect actual changes in the resource and not changes in definitions or procedures.

Identifying and Correcting Procedural Changes

Between the 1968 and 1983 inventories of Southeast Wisconsin some procedural changes were made in the method of deriving annual mortality estimates and determining forest type, and revised volume equations were used.

Mortality figures for the 1968 inventory were based on field estimates from nonremeasurement plots. Information gathered on remeasurement plots during the current inventory was used to adjust the 1968 mortality figures. This adjustment, together with the new volume equations, also changed the estimate of net growth for the 1968 inventory. Additionally, the old spruce-fir forest type was separated into two distinct types for the new inventory--white spruce and balsam fir. Comparisons with old data may be made by adding the two new types together.

The difference in volume equations resulted in a 2.8 percent decrease in reported growing-stock volume for 1968.

Checking for Consistency

A test was made to ensure that it was possible to move from the adjusted 1968 resource statistics to the 1983 values by means of Timber Resource Analysis System (TRAS), a USDA Forest Service computer program for updating, backdating, and projecting timber volume, growth, mortality, and removals. Using the adjusted 1968 numbers of softwood and hardwood trees by 2-inch diameter class and applying 1983 cubic feet per tree estimates, volumes were generated for the 1968 inventory that are comparable to 1983 volumes. Then, using growth rates, mortality rates, and removal rates for the period between the two surveys, TRAS projected the inventory from 1968 to 1983. The program prints out volumes by diameter class for softwoods and hardwoods for selected years in the period. Thus, inconsistencies in volume, growth, mortality, and removals were identified and resolved.

TRAS generates an estimate of what total removals had to be for the inventory to have changed as it did between surveys, given the volume, growth, and mortality data. Estimates of removals for products and for logging residues, two of the three components of total timber removals, were available from an independent utilization study. An estimate of "other" removals (see Definition of Terms in Appendix), the third component of total removals, was made by subtracting the first two removals components from the TRAS-generated total removals estimate. This estimate of "other" removals was compared with findings from remeasurement plots and new plots (stump counts and land use change) to check its validity. When necessary, TRAS was rerun and adjusted until other removals were compatible with the estimate from field data.

LOG GRADE

In Wisconsin's Southeast Unit the butt log of every sawtimber tree on every full permanent sample plot was graded for quality.

Butt logs were graded on the basis of external characteristics as indicators of quality. Hardwood species were graded according to "Hardwood Log Grades for Standard Lumber."[6] The best 12-foot section of the

[5]*Hahn, J. T.; Hansen, M. H. A sampling procedure incorporating a growth simulator. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station. (Manuscript in process).*

lowest 16-foot hardwood log, or the best 12-foot upper section if the butt log did not meet minimum log-grade standards, was graded as follows:

Forest Service standard grades for hardwood factory saw logs

Grading factors		Specifications							
		Log grade 1			Log grade 2				Log grade 3
Position in tree		Butts only	Butts and uppers		Butts and uppers				Butts and uppers
Scaling diameter, inches		13-15[1]	16-19	20+	11+[2]	12+			8+
Length without trim, feet			10+		10+	8-9	10-11	12+	8+
Required clear cuttings[3] of each of three best faces[4]	Min. length, feet	7	5	3	3	3	3	3	2
	Max. number	2	2	2	2	2	2	3	No Limit
	Min. proportion of log length required in clear cutting	5/6	5/6	5/6	2/3	3/4	2/3	2/3	1/2
Maximum sweep and crook allowance	For logs with less than one-fourth of end in sound defects		15 percent			30 percent			50 percent
	For logs with more than one-fourth of end in sound defects		10 percent			20 percent			35 percent
Maximum scaling deduction			40 percent[5]			50 percent[6]			50 percent

[1]Ash and basswood butts can be 12 inches if they otherwise meet requirements for small #1's.
[2]Ten-inch logs of all species can be #2 if they otherwise meet requirements for small #1's.
[3]A clear cutting is a portion of a face, extending the width of the face, that is free of defects.
[4]A face is one-fourth of the surface of the log as divided lengthwise.
[5]Otherwise #1 logs with 41-60 percent deductions can be #2.
[6]Otherwise #2 logs with 51-60 percent deductions can be #3.

[6]*Vaughn, C. L.; Wollin, C. A.; McDonald, K. A.; Bulgrin, E. H. Hardwood log grades for standard lumber. Res. Pap. FPL-63. Madison, WI: U.S. Department of Agriculture, Forest Service, Forest Products Laboratory; 1966. 52 p.*

Forest Service standard specifications for hardwood construction logs (tie and timber logs)[1]

Position in tree		Butt and upper
Min. diameter, small end		8 inches +
Min. length, without trim		8 feet
Clear cuttings		No requirements.
Sweep allowance, absolute		One-fourth of the diameter at the small end for each 8 feet of length.
Sound surface defects	Single knots	Any number, if no one knot has an average diameter above the callus in excess of one-third of log diameter at point of occurrence.
	Whorled knots	Any number if sum of knot diameters above the callus does not exceed one-third of log diameters at point of occurrence.
	Holes	Any number provided none has a diameter over one-third of log diameter at point of occurrence, and none extends over 3 inches into included timber.[2]
Unsound surface defects		Same requirements as for sound defects if they extend into included timber.[2] No limit if they do not.
End defects	Sound	No requirements.
	Unsound	None allowed; log must be sound internally, but will admit one shake not to exceed one-fourth of the scaling diameter and will admit a longitudinal split not extending over 5 inches into the contained timber.

[1]These specifications are minimum for the class. If, from a group of logs, factory logs are selected first, thus leaving only nonfactory logs from which to select construction logs, then the quality range of the construction logs so selected is limited, and the class may be considered a grade. If selection for construction logs is given first priority, then it may be necessary to subdivide the class into grades.

[2]Included timber is always square, and dimension is judged from small end.

Softwood species were graded according to the following specifications:

Log Grades for Eastern White Pine

Log grade	Minimum size Diameter	Minimum size Length[1]	Sweep or crook allowance	Total cull allowance including sweep	Maximum weevil injury	Allowable knot size (inches)[2] on three best faces or minimum clearness on four faces
	(Inches)	*(Feet)*	*(Percent)*		*(Number)*	*(Inches)*
1	12 & 13	8-16	20	50	0	Four faces clear full length
	14+	10-16	20	50	0	Two faces clear full length, or four faces clear 50 percent length (6 feet min. length)[3]
2	6+	8-16	30	50	0	Sound knots 1.e[4] D/6 and less than 3 inches.[5] Unsound knots: 1.e. 1½ inches and for: butt, logs 1.e. D/12, upper logs 1.e.D/10, or four faces clear 50 percent of length
3	6+	8-16	40	50	8-foot logs: 1 weevil 10-foot+ logs: 2 weevils	Sound knots 1.e.D/3 and less than 5 inches. Unsound knots 1.e. D/6 and less than 2½ inches.
4	6+	8-16	50	50	No limit	No limit

[1]Plus trim.
[2]Disregard all knots less than ½-inch diameter in all grades.
[3]The sum of the diameter of sound knots plus twice the sum of the diameter of unsound knots (in inches) is less than or equal to half of the diameter of the log (inches).
[4]l.e. means less than or equal to.
[5]D means d.i.b. of log at location of knot.

LOG GRADES FOR JACK PINE AND RED PINE

Grade 1: logs with three or four clear faces.[7]

Grade 2: logs with one or two clear faces.

Grade 3: logs with no clear faces.

After the tentative log grade is established, the log will be degraded one grade for each of the following, except that no log can be degraded below grade 3. Net scale after deduction for defect must be at least 50 percent of the gross contents of the log.

1. *Sweep.* Degrade any tentative 1 or 2 log one grade if sweep amounts to 3 or more inches and equals or exceeds one-third the diameter inside bark at small end.

2. *Heart rot.* Degrade any tentative 1 or 2 log one grade if conk, massed hyphae, or other evidence of advanced heart rot is found anywhere in it.

[7]*A face is one fourth of the circumference in width extending full length of the log. Clear faces are those free of: knots measuring more than ½-inch in diameter, overgrown knots of any size, holes more than ¼-inch in diameter. Faces may be rotated to obtain the maximum number of clear ones.*

LOG GRADES FOR ALL OTHER SOFTWOOD LOGS

Grade 1

1. Logs must be 16 inches in diameter or larger, 10 feet in length or longer, and have not more than 30 percent of gross scale deducted for defect.

2. Logs must be at least 75 percent clear on each of three faces.

3. All knots outside clear cutting must be sound and not more than 2½-inches in size.

Grade 2

1. Logs must be 12 inches in diameter or larger, 10 feet in length or longer, and have a net scale of at least 50 percent of the gross contents of the log after deduction for defect.

2. Logs must be at least 50 percent clear on each of three faces or 75 percent clear on two faces.

Grade 3

1. Logs must be 6 inches in diameter or larger, 8 feet in length or longer, and have a net scale of at least 50 percent of the gross contents of the log after deduction for defect.

Note: (A) Diameters are diameter inside bark (d.i.b.) at small end of log.
(B) Percent clear refers to percent clear in one continuous section.

TREE SPECIES GROUPS IN WISCONSIN[8]

SOFTWOODS
- Jack pine ..... *Pinus banksiana*
- Red pine ..... *Pinus resinosa*
- Eastern white pine ..... *Pinus strobus*
- White spruce ..... *Picea glauca*
- Black spruce ..... *Picea mariana*
- Balsam fir ..... *Abies balsamea*
- Eastern hemlock ..... *Tsuga canadensis*
- Tamarack ..... *Larix laricina*
- Northern white-cedar ..... *Thuja occidentalis*
- Other softwoods
  - Eastern redcedar ..... *Juniperus virginiana*
  - Norway spruce ..... *Picea abies*
  - Scotch pine ..... *Pinus sylvestris*

HARDWOODS
- White oaks
  - White oak ..... *Quercus alba*
  - Swamp white oak ..... *Quercus bicolor*
  - Bur oak ..... *Quercus macrocarpa*
  - Chinkapin oak ..... *Quercus muehlenbergii*
- Select red oak
  - Northern red oak ..... *Quercus rubra*
- Other red oaks
  - Northern pin oak ..... *Quercus ellipsoidalis*
  - Black oak ..... *Quercus velutina*
- Select hickory
  - Shagbark hickory ..... *Carya ovata*
- Other hickory
  - Bitternut hickory ..... *Carya cordiformis*
- Yellow birch ..... *Betula alleghaniensis*
- Hard maple
  - Sugar maple ..... *Acer saccharum*
  - Black maple ..... *Acer nigrum*
- Soft maples
  - Red maple ..... *Acer rubrum*
  - Silver maple ..... *Acer saccharinum*
- Ashes
  - White ash ..... *Fraxinus americana*
  - Black ash ..... *Fraxinus nigra*
  - Green ash ..... *Fraxinus pennsylvanica*
- Balsam poplar ..... *Populus balsamifera*
- Eastern cottonwood ..... *Populus deltoides*
- Sycamore ..... *Platanus occidentalis*
- Aspens
  - Bigtooth aspen ..... *Populus grandidentata*
  - Quaking aspen ..... *Populus tremuloides*
- American basswood ..... *Tilia americana*
- Beech ..... *Fagus grandifolia*
- Black walnut ..... *Juglans nigra*
- Black cherry ..... *Prunus serotina*
- Butternut ..... *Juglans cinerea*
- Elms
  - American elm ..... *Ulmus americana*
  - Slippery elm ..... *Ulmus rubra*
  - Rock elm ..... *Ulmus thomasii*
- Hackberry ..... *Celtis occidentalis*
- Paper birch ..... *Betula papyrifera*
- Black willow ..... *Salix nigra*
- Other hardwoods
  - Boxelder ..... *Acer negundo*
  - Black locust ..... *Robinia pseudoacacia*
  - Honeylocust ..... *Gleditsia triacanthos*
  - River birch ..... *Betula nigra*
  - Red mulberry ..... *Morus rubra*
  - Blackgum ..... *Nyssa sylvatica*
  - Northern catalpa..... Catalpa speciosa
- Noncommercial species
  - Mountain maple ..... *Acer spicatum*
  - Eastern hophornbeam ..... *Ostrya virginiana*
  - Peachleaf willow ..... *Salix amygdaloides*
  - American hornbeam ..... *Carpinus caroliniana*
  - Hawthorn ..... *Crataegus* spp.
  - Striped maple ..... *Acer pensylvanicum*
  - Mountain ash ..... *Sorbus* spp.
  - Pin cherry ..... *Prunus pensylvanica*
  - Chokecherry ..... *Prunus virginiana*

[8]*The common and scientific names are based on: Little, Elbert L. Check list of native and naturalized trees of the United States. Agric. Handb. 541. Washington, DC: U.S. Department of Agriculture, Forest Service; 1979. 375 p.*

METRIC EQUIVALENTS OF UNITS USED IN THIS REPORT

1 acre = 4,046.86 square meters or 0.405 hectare.
1,000 acres = 405 hectares.
1 cubic foot = 0.0283 cubic meter.
1 foot = 30.48 centimeters or 0.3048 meter.
1 inch = 25.4 millimeters, 2.54 centimeters, or 0.0254 meter.
1 pound = 0.454 kilogram.
1 ton = 0.907 metric ton.

DEFINITION OF TERMS

Basal area.—The area in square feet of the cross section at breast height of a single tree. When the basal area of all trees in a stand are summed, the result is usually expressed as square feet of basal area per acre.

Biomass.—The above-ground volume of all live trees (including bark and foliage). Biomass is made up of 5 components:

Growing-stock bole.—Biomass of a growing-stock tree from a 1-foot stump to a variable 4-inch top.

Growing-stock tops and limbs.—Biomass of a growing-stock tree from a 1-foot stump minus the growing-stock bole.

Cull bole.—Biomass of a cull tree from a 1-foot stump to a variable 4-inch top.

Cull tops and limbs.—Biomass of a cull tree from a 1-foot stump minus the cull bole.

1- to 5-inch trees.—Biomass of all live trees from 1-to 5-inches in diameter at breast height.

Commercial forest land.—Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization. (Note: Areas qualifying as commercial forest land are capable of producing more than 20 cubic feet per acre per year of annual growth when managed. Currently inaccessible and inoperable areas are included except when the areas involved are small and unlikely to become suitable for producing industrial wood in the foreseeable future.)

Commercial species.—Tree species presently or prospectively suitable for industrial wood products. (Note: Excludes species of typically small size, poor form, or inferior quality such as hophornbeam and hawthorn.)

County and municipal land.—Land owned by counties and local public agencies or municipalities, or land leased to these governmental units for 50 years or more.

Cull.—Portions of a tree that are unusable for industrial wood products because of rot, form, or other defect.

Diameter classes.—A classification of trees based on diameter outside bark, measured at breast height (4-½ feet above the ground). (Note: d.b.h. is the common abbreviation for diameter at breast height. Two-inch diameter classes are commonly used in Forest Survey, with the even inch the approximate midpoint for a class. For example, the 6-inch class includes trees 5.0 through 6.9 inches d.b.h.)

Farm.—Any land from which $1,000 or more of agricultural products were produced and sold during the year.

Farmer-owned land.—Land owned by farm operators. (Note: Excludes land leased by farm operators from nonfarm owners, such as railroad companies and States.)

Forest land.—Land at least 16.7 percent stocked by forest trees of any size, or formerly having had such tree cover, and not currently developed for nonforest use. (Note: Stocking is measured by comparing specified standards with basal area and/or number of trees, age or size, and spacing.) The minimum area for classification of forest land is 1 acre. Roadside, streamside, and shelterbelt strips of timber must have a crown width of at least 120 feet to qualify as forest land. Unimproved roads and trails, streams, or other bodies of water or clearings in forest areas shall be classed as forest if less than 120 feet wide. Also see definitions for land area, commercial forest land, noncommercial forest land, productive-reserved forest land, stocking, unproductive forest land, and water.

Forest industry land.—Land owned by companies or individuals operating primary wood-using plants.

Forest trees.—Woody plants having a well-developed stem and usually more than 12 feet tall at maturity.

Forest type.—A classification of forest land based on the species forming a plurality of live tree stocking. Major forest types in the State are:

Jack pine.—Forests in which jack pine comprises a plurality of the stocking. (Common associates include eastern white pine, red pine, aspen, birch, and oak.)

Red pine.—Forests in which red pine comprises a plurality of the stocking. (Common associates include eastern white pine, jack pine, aspen, birch, and oak.)

White pine.—Forests in which eastern white pine comprises a plurality of the stocking. (Common associates include red pine, aspen, birch, and maple.)

Balsam fir.—Forests in which balsam fir and white spruce comprise a plurality of the stocking with balsam fir the most common. (Common associates include white spruce, aspen, maple, birch, northern white-cedar, and spruce.)

White spruce.—Forests in which white spruce and balsam fir comprise a plurality of the stocking with white spruce the most common. (Common associates include balsam fir, aspen, maple, birch, and northern white-cedar.)

Black spruce.—Forests in which swamp conifers comprise a plurality of the stocking with black spruce the most common. (Common associates include tamarack, northern white-cedar, and balsam fir.)

Northern white-cedar.—Forests in which swamp conifers comprise a plurality of the stocking with northern white-cedar the most common. (Common associates include balsam fir, black ash, spruce, and black spruce.)

Tamarack.—Forests in which swamp conifers comprise a plurality of the stocking with tamarack the most common. (Common associates include black spruce, balsam fir, and aspen.)

Oak-hickory.—Forests in which northern red oak, white oak, bur oak, or hickories, singly or in combination, comprise a plurality of the stocking. (Common associates include jack pine, aspen, birch, and maple.)

Elm-ash-soft maple.—Forests in which lowland elm, ash, cottonwood, and red maple, singly or in combination, comprise a plurality of the stocking. (Common associates include aspen, birch, and balsam fir.)

Maple-birch.—Forests in which sugar maple, basswood, yellow birch, elm, and red maple, singly or in combination, comprise a plurality of the stocking. (Common associates include white pine, elm, hemlock, and basswood.)

Aspen.—Forests in which quaking aspen or bigtooth aspen, singly or in combination, comprise a plurality of the stocking. (Common associates include oak, pine, balsam fir, and paper birch.)

Paper birch.—Forests in which paper birch comprises a plurality of the stocking. (Common associates include maple, aspen, and balsam fir.)

Exotic.—Forests in which species not native to the State comprise a plurality of the stocking. (Mostly Scotch pine plantations.)

Gross area.—The entire area of land and water as determined by the Bureau of the Census, 1970.

Growing-stock trees.—Live trees of commercial species, excluding rough and rotten trees.

Growing-stock volume.—Net volume in cubic feet of growing-stock trees 5 inches d.b.h. and over, from a 1-foot stump to a minimum 4 inch top diameter outside bark of the central stem or to the point where the central stem breaks into limbs. Cubic feet can be converted to standard cords by dividing by 79. One standard cord is 128 cubic feet of stacked wood, including bark and air.

Hardwoods.—Dicotyledonous trees, usually broad-leaved and deciduous.

Idle farmland.—Includes former cropland, orchards, improved pastures, and farm sites not tended within the past 2 years and presently less than 16.7 percent stocked with trees.

Improved pasture.—Land currently improved for grazing by cultivating, seeding, irrigating, or clearing of trees or brush and less than 16.7 percent stocked with live trees.

Indian land.—All lands held in trust by the United States for individual Indians or tribes, or all lands, titles to which are held by individual Indians or tribes, subject to Federal restrictions against alienation.

Land area.—A. *Bureau of the Census.* The area of dry land and land temporarily or partly covered by water such as marshes, swamps, and river flood plains (omitting tidal flats below mean high tide); streams, sloughs, estuaries, and canals less than one-eighth of a statute mile wide; and lakes, reservoirs, and ponds less than 40 acres in area.

B. *Forest Inventory and Analysis.* The same as the Bureau of the Census, except minimum width of streams, etc., is 120 feet and minimum size of lakes, etc., is 1 acre.

Live trees.—Growing-stock, rough, and rotten trees 1 inch d.b.h. and larger.

Log grades.—A classification of logs based on external characteristics as indicators of quality or value. (See Appendix for specific grading factors used.)

Logging residues.—The unused growing stock portions of trees cut or killed by logging.

Maintained road.—Any road, hard-topped or other surfaces, that is plowed or graded at least once a year. Includes rights-of-way that are cut or treated to limit herbaceous growth.

Marsh.—Nonforest land that characteristically supports low, generally herbaceous or shrubby vegetation and that is intermittently covered with water.

Merchantable.—Refers to a pulpwood or saw log section that meets pulpwood or saw log specifications, respectively.

Miscellaneous federal land.—Federal land other than National Forest, and land administered by the Bureau of Land Management.

Miscellaneous private land.—Privately owned land other than forest-industry and farmer-owned land.

Mortality.—The volume of sound wood in growing-stock and sawtimber trees that die annually.

National Forest land.—Federal land that has been legally designated as National Forest or purchase units, and other land administered by the USDA Forest Service.

Net annual growth of growing stock.— The annual change in volume of sound wood in live sawtimber and poletimber trees and the total volume of trees entering these classes through ingrowth, less volume losses resulting from natural causes.

Net annual growth of sawtimber.—The annual change in the volume of live sawtimber trees and the total volume of trees reaching sawtimber size, less volume losses resulting from natural causes.

Net volume.—Gross volume less deductions for rot, sweep, or other defect affecting use for timber products.

Noncommercial forest land.—(a) Unproductive forest land and (b) productive-reserved forest land.

Noncommercial species.—Tree species of typically small size, poor form, or inferior quality that normally do not develop into trees suitable for industrial wood products.

Nonforest land.—Land that has never supported forests, and land formerly forested where use for timber management is precluded by development

for other uses. (Note: Includes areas used for crops, improved pasture, residential areas, city parks, improved roads of any width and adjoining clearings, powerline clearings of any width, and 1- to 40-acre areas of water classified by the Bureau of the Census as land. If intermingled in forest areas, unimproved roads and nonforest strips must be more than 120 feet wide and more than 1 acre in area to qualify as nonforest land.)

a. *Nonforest land without trees.*—Nonforest land with no live trees present.

b. *Nonforest land with trees.*—Nonforest land with one or more trees per acre at least 5 inches d.b.h.

Nonstocked land.—Commercial forest land less than 16.7 percent stocked with growing-stock trees.

Other removals.—Growing-stock trees removed but not utilized for products, or trees left standing but "removed" from the commercial forest land classification by land use change. Examples are removals from cultural operations such as timber stand improvement work, land clearing, and changes in land use.

Ownership.—Property owned by one owner, regardless of the number of parcels in a specified area.

Ownership size class.—The amount of commercial forest land owned by one owner, regardless of the number of parcels.

Owner tenure.—The length of time a property has been held by the owner.

Physiographic class.—A measure of soil and water conditions that affect tree growth on a site. The physiographic classes are:

Xeric sites.—Very dry soils where excessive drainage seriously limits both growth and species occurrence. Example: sandy jack pine plains.

Xeromesic sites.—Moderately dry soils where excessive drainage limits growth and species occurrence to some extent. Example: dry oak ridge.

Mesic sites.—Deep, well-drained soils. Growth and species occurrence are limited only by climate.

Hydromesic sites.—Moderately wet soils where insufficient drainage or infrequent flooding limits growth and species occurrence to some extent. Example: better drained bottomland hardwood sites.

Hydric sites.—Very wet sites where excess water seriously limits both growth and species occurrence. Example: frequently flooded river bottoms and spruce bogs.

Plant byproducts.—Plant residues used for products such as mulch, pulp chips, and fuelwood.

Plant residues.—Wood and bark materials generated at manufacturing plants during production of other products.

Poletimber stands.—(See stand-size class.)

Poletimber trees.—Growing-stock trees of commercial species at least 5 inches d.b.h. but smaller than sawtimber size.

Productive-reserved forest land.—Forest land sufficiently productive to qualify as commercial forest land but withdrawn from timber utilization through statute, administration regulation, designation, or exclusive use for Christmas tree production, as indicated by annual shearing.

Productive-deferred.—Forest land sufficiently productive to qualify as commercial forest land but presently withdrawn from timber utilization because it is being considered for possible inclusion into the Wilderness or Scenic River system.

Rotten trees.—Live trees of commercial species that do not contain at least one 12-foot saw log or two saw logs 8 feet or longer, now or prospectively, because they do not meet regional specifications for freedom from defect primarily because of rot; that is, when more than 50 percent of extra cull volume in a tree is rotten.

Rough trees.—(a) Live trees of commercial species that do not contain at least one merchantable 12-foot saw log or two saw logs 8 feet or longer, now or prospectively, because they do not meet regional specifications for freedom from defect primarily because of roughness or poor form, and (b) all live trees of noncommercial species.

Roundwood products.—Logs, bolts, or other round sections (including chips from roundwood) cut from trees for industrial or consumer uses. (Note: Includes saw logs, veneer logs and bolts; cooperage logs and bolts; pulpwood;fuelwood; piling; poles; posts; hewn ties; mine timbers; and various other round, split, or hewn products.)

Salvable dead trees.—Standing or down dead trees considered merchantable by regional standards.

Saplings.—Live trees 1 to 5 inches d.b.h.

Sapling-seedling stands.—(See stand-size class.)

Saw log.—A log meeting minimum standards of diameter, length, and defect, including logs at least 8 feet long, sound and straight and with a minimum diameter outside bark (d.o.b.) for softwoods of 7 inches (9 inches for hardwoods) or other combinations of size and defect specified by regional standards.

Saw log portion.—That part of the bole of sawtimber trees between the stump and the saw log top.

Saw log top.—The point on the bole of sawtimber trees above which a saw log cannot be produced. The minimum saw log top is 7 inches d.o.b. for softwoods and 9 inches d.o.b. for hardwoods.

Sawtimber stands.—(See stand-size class.)

Sawtimber trees.—Growing-stock trees of commercial species containing at least a 12-foot saw log or two noncontiguous saw logs 8 feet or longer, and

meeting regional specifications for freedom from defect. Softwoods must be at least 9 inches d.b.h. Hardwoods must be at least 11 inches d.b.h.

Sawtimber volume.—Net volume of the saw log portion of live sawtimber in board feet, International ¼-inch rule, from stump to a minimum 7 inches top diameter outside bark (d.o.b.) for softwoods and a minimum 9 inches top d.o.b. for hardwoods.

Seedlings.—Live trees less than 1 inch d.b.h. that are expected to survive. Only softwood seedlings more than 6 inches tall and hardwood seedlings more than 1 foot tall are counted.

Short-log (rough tree).—Sawtimber-size trees of commercial species that contain at least one merchantable 8- to 11-foot saw log but not a 12-foot saw log.

Shrub biomass.—The total above-ground weight (including the bark) of selected shrubs and trees less than 1 inch d.b.h.

Site class.—A classification of forest land in terms of inherent capacity to grow crops of industrial wood based on fully stocked natural stands.

Site index.—An expression of forest site quality based on the height of a free-growing dominant or codominant tree of a representative species in the forest type at age 50.

Softwoods.—Coniferous trees, usually evergreen, having needles or scale-like leaves.

Stand.—A growth of trees on a minimum of 1 acre of forest land that is stocked by forest trees of any size.

Stand-age class.—Age of the main stand. Main stand refers to trees of the dominant forest type and stand-size class.

Stand-area class.—The extent of a continuous forested area of the same forest type, stand-size class, and stand-density class.

Stand-size class.—A classification of forest land based on the size class of growing-stock trees on the area; that is, sawtimber, poletimber, or seedlings and saplings.

a. *Sawtimber stands.*—Stands at least 16.7 percent stocked with growing-stock trees, with half or more of total stocking in sawtimber or poletimber trees, and with sawtimber stocking at least equal to poletimber stocking.

b. *Poletimber stands.*—Stands at least 16.7 percent stocked with growing-stock trees of which half or more of this stocking is in poletimber and/or sawtimber trees, and with poletimber stocking exceeding that of sawtimber.

c. *Sapling-seedling stands.*—Stands at least 16.7 percent stocked with growing-stock trees of which more than half of the stocking is saplings and/or seedlings.

d. *Nonstocked stands.*—Stands in which stocking of growing-stock trees is less than 16.7 percent.

State land.—Land either owned by States or leased to them, for 50 years or more.

Stocking.—The degree of occupancy of land by trees, measured by basal area and/or the number of trees in a stand by size or age and spacing, compared to the basal area and/or number of trees required to fully utilize the growth potential of the land; that is, the stocking standard.

A stocking percent of 100 indicates full utilization of the site and is equivalent to 80 square feet of basal area per acre in trees 5 inches d.b.h. and larger. In a stand of trees less than 5 inches d.b.h., a stocking percent of 100 would indicate that the present number of trees is sufficient to produce 80 square feet of basal area per acre when the trees reach 5 inches d.b.h.

Stands are grouped into the following stocking classes:

Overstocked stands.—Stands in which stocking of trees is 134.0 percent or more.

Fully stocked stands.—Stands in which stocking of trees is from 101.0 to 133.9 percent.

Medium stocked stands.—Stands in which stocking of trees is from 61.0 to 100.9 percent.

Poorly stocked stands.—Stands in which stocking of trees is from 16.7 to 60.9 percent.

Nonstocked areas.—Commercial forest land on which stocking of trees is less than 16.7 percent.

Timber removals from growing stock.—The volume of sound wood in growing-stock trees removed annually for forest products (including roundwood products and logging residues) and for other removals.

Timber removals from sawtimber.—The net board-foot volume of live sawtimbertrees removed for forest products annually (including roundwood products and logging residues) and for other removals.

Timber products output.—All timber products cut from roundwood and byproducts of wood manufacturing plants. Roundwood products include logs, bolts, or other round sections cut from growing-stock trees, cull trees, salvable dead trees, trees on nonforest land, noncommercial species, sapling-size trees, and limbwood. Byproducts from primary manufacturing plants include slabs, edging, trimmings, miscuts, sawdust, shavings, veneer cores and clippings, and screenings of pulpmills that are used as pulpwood chips or other products.

Tree biomass.—The total aboveground weight (including the bark) of all trees from 1 to 5 inches in d.b.h., and the total aboveground weight (including the bark) from a 1-foot stump for trees more than 5 inches in diameter.

Tree size class.—A classification of trees based on diameter at breast height, including sawtimber trees, poletimber trees, saplings, and seedlings.

Unproductive forest land.—Forest land incapable of producing 20 cubic feet per acre of annual growth or of yielding crops of industrial wood under natural conditions because of adverse site conditions. (Note: Adverse conditions include shallow soil, dry climate, poor drainage, high elevation, steepness, and rockiness).

Upper stem portion.—That part of the bole of sawtimber trees above the saw log top to a minimum top diameter of 4 inches outside bark or to the point where the central stem breaks into limbs.

Urban and other areas.—Areas within the legal boundaries of cities and towns; suburban areas developed for residential, industrial, or recreational purposes; schoolyards, cemeteries, roads; railroads; airports; beaches; powerlines; and other rights-of-way; or other nonforest land not included in any other specified land use class.

Water.—(a) *Bureau of the Census.*—Permanent inland water surfaces, such as lakes, reservoirs, and ponds at least 40 acres in area; and streams, sloughs, estuaries, and canals at least one-eighth of a statute mile wide.

(b) Noncensus.—Permanent inland water surfaces, such as lakes, reservoirs, and ponds from 1 to 39.9 acres in area; and streams, sloughs, estuaries, and canals from 120 feet to one-eighth of a statute mile wide.

Wooded pasture.—Improved pasture with more than 16.7 percent stocking in live trees but less than 25 percent stocking in growing-stock trees. Area is currently improved for grazing or there is other evidence of grazing.

Wooded strip.—An acre or more of natural continuous forest land that would otherwise meet survey standards for commercial forest land except that it is less than 120 feet wide.

TABLES

AREA

Table 1.--Area of land by land class, 1968 and 1983
Table 2.--Area of land by land use class and county
Table 3.--Area of commercial forest land by ownership class and county
Table 4.--Area of commercial forest land by ownership class and site class
Table 5.--Area of commercial forest land by ownership class and stand-volume class
Table 6.--Area of privately owned commercial forest land by ownership class, owner tenure, and size of holding
Table 7.--Area of commercial forest land by forest type, stand-size class, and ownership class
Table 8.--Area of commercial forest land by forest type and county
Table 9.--Area of commercial forest land by county and stand-size class
Table 10.--Area of commercial forest land by forest type, stand-size class, and site class
Table 11.--Area of commercial forest land by forest type and stand-age class
Table 12.--Area of commercial forest land by forest type and site-index class
Table 13.--Area of commercial forest land by forest type, stand-size class, and basal-area class
Table 14.--Area of commercial forest land by stocking class of growing-stock trees and stand-size class
Table 15.--Area of commercial forest land in plantations by forest type and stand-age class
Table 16.--Area of commercial forest land with conifer understory by forest type and conifer understudy species
Table 17.--Area of noncommercial forest land by ownership class
Table 18.--Area of noncommercial forest land by forest type

NUMBER OF TREES

Table 19.--Number of all live trees on commercial forest land by species group and diameter class
Table 20.--Number of growing-stock trees on commercial forest land by species group and diameter class

VOLUME

Table 21.--Net volume of growing stock on commercial forest land by species group, 1968 and 1983
Table 22.--Net volume of all live trees on commercial forest land by species group and diameter class
Table 23.--Net volume of timber on commercial forest land by class of timber and softwoods and hardwoods
Table 24.--Net volume of growing stock, sawtimber, short-log, and rough and rotten trees on commercial forest land by individual species
Table 25.--Net volume of noncommercial species on commercial forest land by individual species

Table 26.--Net volume of growing stock on commercial forest land by species group and county
Table 27.--Net volume of sawtimber on commercial forest land by species group and county
Table 28.--Net volume of growing stock on commercial forest land by species group and diameter class
Table 29.--Net volume of sawtimber on commercial forest land by species group and diameter class
Table 30.--Net volume of growing stock on commercial forest land by species group and forest type
Table 31.--Net volume of sawtimber on commercial forest land by species group and forest type
Table 32.--Net volume of growing stock on commercial forest land by species group and ownership class
Table 33.--Net volume of sawtimber on commercial forest land by species group and ownership class
Table 34.--Net volume of growing stock on commercial forest land by forest type and stand-age class
Table 35.--Net volume of sawtimber on commercial forest land by forest type and stand-age class
Table 36.--Net volume of growing stock on commercial forest land by forest type, stand-size class, and basal-area class
Table 37.--Net volume of sawtimber on commercial forest land by forest type, stand-size class, and basal-area class
Table 38.--Net volume of sawtimber on commercial forest land by species group and butt log grade
Table 39.--Net volume of short-log trees on commercial forest land by species group and diameter class (cubic feet)
Table 40.--Net volume of short-log trees on commercial forest land by species group and diameter class (board feet)

GROWTH AND REMOVALS

Table 41.--Net annual growth of growing stock on commercial forest land by softwoods and hardwoods, 1967 and 1982
Table 42.--Net annual growth of growing stock on commercial forest land by species group and county
Table 43.--Net annual growth of sawtimber on commercial forest land by species group and county
Table 44.--Net annual growth of growing stock and sawtimber on commercial forest land by ownership class and softwoods and hardwoods
Table 45.--Net annual growth of growing stock on commercial forest land by species group and type
Table 46.--Net annual growth of sawtimber on commercial forest land by species group and type
Table 47.--Net annual growth of growing stock on commercial forest land by forest type, stand-size class, and basal-area class
Table 48.--Net annual growth of sawtimber on commercial forest land by forest type, stand-size class, and basal-area class
Table 49.--Timber removals from growing stock on commercial forest land by species group and county
Table 50.--Timber removals from sawtimber on commercial forest land by species group and county
Table 51.--Average annual growing stock removals on commercial forest land by species group and county, 1967-1982
Table 52.--Average annual sawtimber removals on commercial forest land by species group and county, 1967-1982
Table 53.--Timber removals from growing stock and sawtimber on commercial forest land by species group, 1967 and 1982
Table 54.--Timber removals from growing stock and sawtimber on commercial forest land by item and species category

MORTALITY

Table 55.--Annual mortality of growing stock on commercial forest land by softwoods and hardwoods, 1967 and 1982
Table 56.--Annual mortality of growing stock on commercial forest land by species group and cause
Table 57.--Annual mortality of sawtimber on commercial forest land by species group and cause
Table 58.--Annual mortality of growing stock and sawtimber on commercial forest land by county and softwoods and hardwoods
Table 59.--Annual mortality of growing stock and sawtimber on commercial forest land by ownership class and softwoods and hardwoods

TIMBER PRODUCTS OUTPUT

Table 60.--Output of timber products by product, softwoods and hardwoods, and source of material
Table 61.--Output of roundwood products by product, softwoods and hardwoods, and source of material

Table 62.--Timber products from roundwood by species group and product
Table 63.--Volume of primary plant residue by use and type of residue

BIOMASS

Table 64.--All live tree biomass on commercial forest land by species group and forest type
Table 65.--All live tree biomass by species group and tree biomass component

SAMPLING ERRORS

Table 66.--Sampling errors for estimates smaller than the Unit totals of volume, net growth, removals, and area of commercial forest land
Table 67.--Sampling errors for county totals of growing-stock volume, net growth, removals, and area of commercial forest land

Table 1.--Area of land by land class, Southeast Unit, Wisconsin, 1968 and 1983

(In thousand acres)

Land class	1968	1983
Forest land		
Commercial forest land		
Jack pine	--	2.7
Red pine	4.2	12.2
White pine	5.7	16.4
Balsam fir	--	--
White spruce	5.4	5.0
Black spruce	--	2.7
Northern white-cedar	50.5	53.6
Tamarack	8.5	9.2
Oak-hickory	279.7	292.8
Elm-ash-soft maple	165.3	200.5
Maple-birch	236.5	233.9
Aspen	100.8	63.3
Paper birch	13.8	8.3
Nonstocked	33.1	8.6
Subtotal	903.5	909.2
Noncommercial forest land		
Unproductive	15.6	2.9
Productive-reserved	10.7	25.4
Subtotal	26.3	28.3
Total	929.8	937.5
Nonforest land		
Cropland	4,823.7	5,347.9
Pasture and range	348.7	322.8
Other	1,756.6	1,278.3
Total	6,929.0	6,949.0
Total land	7,858.8	7,886.5
Water (Bureau of the Census)	301.8[1/]	311.3[2/]
Total land and water	8,160.6[1/]	8,197.8[2/]

[1/] U.S. Department of Commerce, Bureau of Census, 1960.
[2/] U.S. Department of Commerce, Bureau of Census, 1980.

Table 2.--Area of land by land use class and county, Southeast Unit, Wisconsin, 1983

(In thousand acres)

Land use class	All counties	County											
		Brown	Calumet	Columbia	Dane	Dodge	Door	Fond du Lac	Green	Green Lake	Jefferson	Kenosha	Kewaunee
Forest land													
Commercial forest	909.2	47.4	24.7	84.2	90.2	27.6	106.3	33.9	30.9	21.0	29.0	10.8	36.8
Unproductive forest	2.9	--	--	--	--	--	--	--	--	--	--	--	--
Productive reserved	25.4	1.7	0.4	0.2	0.9	0.2	13.7	1.2	--	--	0.3	0.9	--
Total	937.5	49.1	25.1	84.4	91.1	27.8	120.0	35.1	30.9	21.0	29.3	11.7	36.8
Nonforest land													
Nonforest with trees													
Cropland with trees	20.3	--	--	--	7.5	--	2.7	--	--	--	5.1	--	--
Improved pasture with trees	12.2	--	--	--	--	--	--	2.5	5.0	--	--	2.3	--
Wooded strips	--	--	--	--	--	--	--	--	--	--	--	--	--
Idle farmland with trees	--	--	--	--	--	--	--	--	--	--	--	--	--
Marsh with trees	19.8	--	--	5.0	--	--	--	2.1	--	4.6	2.7	--	--
Urban and other windbreaks	53.2	--	--	2.5	2.5	--	2.7	--	--	--	--	--	--
Windbreaks	10.4	--	--	--	--	--	--	--	2.5	--	--	--	--
Wooded pasture	2.4	--	--	--	--	--	--	--	--	--	--	--	--
Subtotal	118.3	--	--	7.5	10.0	--	5.4	4.6	7.5	4.6	7.8	2.3	--
Nonforest without trees													
Cropland without trees	5,327.6	214.2	156.8	355.0	592.1	438.6	156.6	342.9	302.1	111.0	252.8	101.1	168.0
Improved pasture without trees	308.2	17.1	10.8	17.2	10.0	25.2	8.1	35.4	7.7	26.1	20.4	7.0	4.8
Idle farm without trees	44.0	--	--	2.4	--	--	--	--	--	--	--	9.4	--
Marsh without trees	301.9	2.4	--	17.1	10.0	45.9	2.7	22.8	2.5	49.6	28.6	9.3	--
Other farm-farmstead	149.8	7.3	5.4	--	15.0	10.2	10.9	7.7	10.1	5.2	5.1	--	2.5
Urban and other	693.1	45.4	10.8	9.9	42.4	20.2	10.8	15.3	12.5	10.7	15.6	33.0	7.4
Noncensus water	6.1	--	--	--	0.3	--	--	--	--	--	--	0.7	--
Subtotal	6,830.7	286.4	183.8	401.6	669.8	540.1	189.1	424.1	334.9	202.6	322.5	160.5	182.7
Total	6,949.0	286.4	183.8	409.1	679.8	540.1	194.5	428.7	342.4	207.2	330.3	162.8	182.7
Total land	7,886.5	335.5	208.9	493.5	770.9	567.9	314.5	463.8	373.3	228.2	359.6	174.5	219.5
Water (Bureau of the Census)[1/]	311.3	13.5	45.2	14.6	22.2	13.4	13.2	25.7	0.8	15.4	13.4	3.6	0.8
Total land and water[1/]	8,197.8	349.0	254.1	508.1	793.1	581.3	327.7	489.5	374.1	243.6	373.0	178.1	220.3

(Table 2 continued on next page)

[1/] U.S. Department of Commerce, Bureau of Census, 1980.

(Table 2 continued)

Land use class	County										
	Manitowoc	Milwaukee	Outagamie	Ozaukee	Racine	Rock	Sheboygan	Walworth	Washington	Waukesha	Winnebago
Forest land											
Commercial forest	56.5	--	70.7	16.3	16.9	26.9	51.5	35.6	45.7	32.1	14.2
Unproductive forest	--	--	--	--	--	--	--	--	--	2.9	--
Productive reserved	0.9	--	--	--	0.8	1.2	1.1	0.2	0.1	1.6	--
Total	57.4	--	70.7	16.3	17.7	28.1	52.6	35.8	45.8	36.6	14.2
Nonforest land											
Nonforest with trees											
Cropland with trees	--	--	--	--	--	2.4	--	--	--	2.6	--
Improved pasture with trees	--	--	--	--	2.4	--	--	--	--	--	--
Wooded strips	--	--	--	--	--	--	--	--	--	--	--
Idle farmland with trees	--	--	--	--	--	--	--	--	--	--	--
Marsh with trees	2.7	--	2.7	--	--	--	--	--	--	--	--
Urban and other windbreaks	--	21.3	7.1	--	--	5.1	2.2	--	3.3	5.8	0.7
Windbreaks	--	--	2.8	2.6	--	2.5	--	--	--	--	--
Wooded pasture	--	--	--	--	--	2.4	--	--	--	--	--
Subtotal	2.7	21.3	12.6	2.6	2.4	12.4	2.2	--	3.3	8.4	0.7
Nonforest without trees											
Cropland without trees	281.1	--	258.9	97.8	144.8	314.2	224.7	254.1	163.8	197.5	199.5
Improved pasture without trees	2.8	--	19.5	5.6	7.2	23.0	7.6	12.3	24.8	13.1	2.5
Idle farm without trees	--	--	--	--	5.0	7.5	2.5	14.7	2.5	--	--
Marsh without trees	--	--	8.1	2.8	7.2	7.4	12.3	14.5	4.9	21.1	32.7
Other farm-farmstead	8.4	--	13.7	2.8	7.2	7.6	10.1	--	10.0	10.6	--
Urban and other	27.7	133.1	27.5	22.4	21.7	61.0	17.8	24.2	19.7	66.0	38.0
Noncensus water	--	0.2	--	--	0.9	1.8	--	--	0.7	1.5	--
Subtotal	320.0	133.3	327.7	131.4	194.0	422.5	275.0	319.8	226.4	309.8	272.7
Total	322.7	154.6	340.3	134.0	196.4	434.9	277.2	319.8	229.7	318.2	273.4
Total land	380.1	154.6	411.0	150.3	214.1	463.0	329.8	355.6	275.5	354.8	287.6
Water (Bureau of the Census)[1/]	1.3	2.2	1.7	0.3	4.1	1.3	1.8	13.7	3.3	16.8	83.0
Total land and water[1/]	381.4	156.8	412.7	150.6	218.2	464.3	331.6	369.3	278.8	371.6	370.6

[1/] U.S. Department of Commerce, Bureau of Census, 1980.

Table 3.--Area of commercial forest land by ownership class and county, Southeast Unit, Wisconsin, 1983

(In thousand acres)

Ownership class	All counties	County											
		Brown	Calumet	Columbia	Dane	Dodge	Door	Fond du Lac	Green	Green Lake	Jefferson	Kenosha	Kewaunee
National Forest	--	--	--	--	--	--	--	--	--	--	--	--	--
Miscellaneous federal	4.6	2.5	--	--	--	--	--	2.1	--	--	--	--	--
State	67.5	--	4.8	7.4	5.4	--	2.7	8.5	--	--	--	1.8	--
County and municipal	12.9	5.0	--	--	--	--	--	--	2.4	--	--	--	--
Indian	--	--	--	--	--	--	--	--	--	--	--	--	--
Forest industry	15.5	--	--	2.5	--	--	5.4	--	--	--	--	--	--
Farmer	429.3	20.0	9.9	27.1	54.7	18.3	40.8	14.7	23.8	14.1	15.8	3.6	23.5
Misc. private-corporation	56.5	2.5	--	2.4	2.7	2.3	8.3	2.2	--	--	2.6	--	2.6
Misc. private-individual	322.9	17.4	10.0	44.8	27.4	7.0	49.1	6.4	4.7	6.9	10.6	5.4	10.7
All owners	909.2	47.4	24.7	84.2	90.2	27.6	106.3	33.9	30.9	21.0	29.0	10.8	36.8

Ownership class	County										
	Manitowoc	Milwaukee	Outagamie	Ozaukee	Racine	Rock	Sheboygan	Walworth	Washington	Waukesha	Winnebago
National Forest	--	--	--	--	--	--	--	--	--	--	--
Miscellaneous federal	--	--	--	--	--	--	--	--	--	--	--
State	8.1	--	--	--	--	5.0	8.9	--	3.3	11.6	--
County and municipal	--	--	--	--	--	--	2.3	--	3.2	--	--
Indian	--	--	--	--	--	--	--	--	--	--	--
Forest industry	2.6	--	5.0	--	--	--	--	--	--	--	--
Farmer	24.2	--	25.0	6.5	6.8	14.6	20.3	10.1	29.4	17.6	8.5
Misc. private-corporation	2.7	--	10.0	3.2	--	2.5	2.3	10.2	--	--	--
Misc. private-individual	18.9	--	30.7	6.6	10.1	4.8	17.7	15.3	9.8	2.9	5.7
All owners	56.5	--	70.7	16.3	16.9	26.9	51.5	35.6	45.7	32.1	14.2

Table 4.--Area of commercial forest land by ownership class and site class, Southeast Unit, Wisconsin, 1983

(In thousand acres)

Ownership class	All classes	Site class (cubic feet of growth per acre per year)					
		225+	165-224	120-164	85-119	50-84	20-49
National Forest	--	--	--	--	--	--	--
Miscellaneous federal	4.6	--	--	--	--	--	4.6
State	67.5	--	--	1.8	12.0	28.0	25.7
County and municipal	12.9	--	--	--	2.5	10.4	--
Indian	--	--	--	--	--	--	--
Forest industry	15.5	--	--	--	2.5	7.8	5.2
Farmer	429.3	--	--	15.2	86.6	160.2	167.3
Misc. private-corporation	56.5	--	--	--	7.5	22.9	26.1
Misc. private-individual	322.9	--	--	5.0	61.0	126.1	130.8
All owners	909.2	--	--	22.0	172.1	355.4	359.7

Table 5.--Area of commercial forest land by ownership class and stand-volume class, Southeast Unit, Wisconsin, 1983

(In thousand acres)

Ownership class	All classes	Stand-volume class (board feet[1/])		
		Less than 1,500	1,500 to 5,000	5,000+
National Forest	--	--	--	--
Miscellaneous federal	4.6	2.5	2.1	--
State	67.5	28.0	26.8	12.7
County and municipal	12.9	5.5	2.4	5.0
Indian	--	--	--	--
Forest industry	15.5	7.8	2.5	5.2
Farmer	429.3	175.7	170.0	83.6
Misc. private-corporation	56.5	21.1	25.8	9.6
Misc. private-individual	322.9	122.8	155.9	44.2
All owners	909.2	363.4	385.5	160.3

[1/] International 1/4-inch rule.

Table 6.--Area of privately owned commercial forest land by ownership class, owner tenure, and size of holding, Southeast Unit, Wisconsin, 1983

(In thousand acres)

Ownership class and owner tenure class	All sizes	Size of holding (acres)								
		1-4	5-10	11-20	21-50	51-100	101-500	501-2,500	2,501-5,000	5,001+
Forest industry										
1-4 years	--	--	--	--	--	--	--	--	--	--
5-9 years	7.8	--	--	--	--	2.5	--	5.3	--	--
10-19 years	7.7	--	--	--	5.0	--	--	2.7	--	--
20+ years	--	--	--	--	--	--	--	--	--	--
All classes	15.5	--	--	--	5.0	2.5	--	8.0	--	--
Farmer										
1-4 years	65.2	2.5	5.2	18.9	14.8	13.9	9.9	--	--	--
5-9 years	97.2	5.3	--	27.3	41.2	20.1	3.3	--	--	--
10-19 years	145.0	10.2	2.6	45.9	47.6	33.9	4.8	--	--	--
20+ years	121.9	5.2	7.7	40.0	51.4	14.8	2.8	--	--	--
All classes	429.3	23.2	15.5	132.1	155.0	82.7	20.8	--	--	--
Misc. priv.-corporation										
1-4 years	18.4	3.2	2.4	--	7.7	5.1	--	--	--	--
5-9 years	12.9	--	--	--	--	5.1	7.8	--	--	--
10-19 years	19.9	2.5	2.5	--	--	10.1	4.8	--	--	--
20+ years	5.3	--	--	--	2.6	2.7	--	--	--	--
All classes	56.5	5.7	4.9	--	10.3	23.0	12.6	--	--	--
Misc. priv.-individual										
1-4 years	71.5	2.5	1.8	23.5	33.4	7.6	2.7	--	--	--
5-9 years	97.0	15.4	16.7	23.9	25.0	13.5	2.5	--	--	--
10-19 years	97.9	9.2	21.2	15.0	28.1	19.2	5.2	--	--	--
20+ years	56.5	5.0	7.7	7.3	21.3	12.9	2.3	--	--	--
All classes	322.9	32.1	47.4	69.7	107.8	53.2	12.7	--	--	--
All private owners										
1-4 years	155.1	8.2	9.4	42.4	55.9	26.6	12.6	--	--	--
5-9 years	214.9	20.7	16.7	51.2	66.2	41.2	13.6	5.3	--	--
10-19 years	270.5	21.9	26.3	60.9	80.7	63.2	14.8	2.7	--	--
20+ years	183.7	10.2	15.4	47.3	75.3	30.4	5.1	--	--	--
All classes	824.2	61.0	67.8	201.8	278.1	161.4	46.1	8.0	--	--

Table 7.--Area of commercial forest land by forest type, stand-size class, and ownership class, Southeast Unit, Wisconsin, 1983

(In thousand acres)

Forest type and stand-size class	All owners	Ownership class								
		National Forest	Misc. federal	State	County & municipal	Indian	Forest industry	Farmer	Misc. priv.-corp.	Misc. priv.-indiv.
Jack pine										
Sawtimber	--	--	--	--	--	--	--	--	--	--
Poletimber	2.7	--	--	--	--	--	--	2.7	--	--
Sapling & seedling	--	--	--	--	--	--	--	--	--	--
All stands	2.7	--	--	--	--	--	--	2.7	--	--
Red pine										
Sawtimber	2.2	--	--	2.2	--	--	--	--	--	--
Poletimber	5.0	--	--	--	--	--	--	--	2.4	2.6
Sapling & seedling	5.0	--	--	--	--	--	--	--	--	5.0
All stands	12.2	--	--	2.2	--	--	--	--	2.4	7.6
White pine										
Sawtimber	4.9	--	--	--	--	--	--	4.9	--	--
Poletimber	8.7	--	--	1.8	--	--	--	2.4	--	4.5
Sapling & seedling	2.8	--	--	--	--	--	--	--	--	2.8
All stands	16.4	--	--	1.8	--	--	--	7.3	--	7.3
Balsam fir										
Sawtimber	--	--	--	--	--	--	--	--	--	--
Poletimber	--	--	--	--	--	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--	--	--	--
All stands	--	--	--	--	--	--	--	--	--	--
White spruce										
Sawtimber	--	--	--	--	--	--	--	--	--	--
Poletimber	2.2	--	--	--	--	--	--	--	--	2.2
Sapling & seedling	2.8	--	--	--	--	--	--	--	--	2.8
All stands	5.0	--	--	--	--	--	--	--	--	5.0
Black spruce										
Sawtimber	--	--	--	--	--	--	--	--	--	--
Poletimber	--	--	--	--	--	--	--	--	--	--
Sapling & seedling	2.7	--	--	--	--	--	--	2.7	--	--
All stands	2.7	--	--	--	--	--	--	2.7	--	--
Northern white-cedar										
Sawtimber	24.0	--	--	5.4	--	--	--	--	2.6	16.0
Poletimber	18.2	--	--	--	--	--	2.5	10.3	--	5.4
Sapling & seedling	11.4	--	--	--	--	--	--	8.7	--	2.7
All stands	53.6	--	--	5.4	--	--	2.5	19.0	2.6	24.1

(Table 7 continued on next page)

(Table 7 continued)

Forest type and stand-size class	All owners	Ownership class: National Forest	Misc. federal	State	County & municipal	Indian	Forest industry	Farmer	Misc. priv.-corp.	Misc. priv.-indiv.
Tamarack										
Sawtimber	2.1	--	--	2.1	--	--	--	--	--	--
Poletimber	4.6	--	--	--	2.3	--	--	2.3	--	--
Sapling & seedling	2.5	--	--	--	--	--	--	--	2.5	--
All stands	9.2	--	--	2.1	2.3	--	--	2.3	2.5	--
Oak-hickory										
Sawtimber	237.6	--	--	10.3	--	--	--	130.1	17.4	79.8
Poletimber	31.8	--	--	2.1	3.2	--	2.5	16.4	--	7.6
Sapling & seedling	23.4	--	--	5.6	--	--	--	5.4	--	12.4
All stands	292.8	--	--	18.0	3.2	--	2.5	151.9	17.4	99.8
Elm-ash-soft maple										
Sawtimber	77.2	--	2.1	8.5	7.4	--	5.2	30.5	7.5	16.0
Poletimber	83.1	--	--	8.2	--	--	--	42.5	--	32.4
Sapling & seedling	40.2	--	--	4.6	--	--	5.3	16.7	5.9	7.7
All stands	200.5	--	2.1	21.3	7.4	--	10.5	89.7	13.4	56.1
Maple-birch										
Sawtimber	133.6	--	--	2.7	--	--	--	70.7	7.4	52.8
Poletimber	56.6	--	--	2.3	--	--	--	27.1	2.5	24.7
Sapling & seedling	43.7	--	--	--	--	--	--	30.5	--	13.2
All stands	233.9	--	--	5.0	--	--	--	128.3	9.9	90.7
Aspen										
Sawtimber	10.9	--	--	--	--	--	--	5.4	--	5.5
Poletimber	23.4	--	2.5	5.0	--	--	--	2.8	5.6	7.5
Sapling & seedling	29.0	--	--	6.7	--	--	--	12.2	2.7	7.4
All stands	63.3	--	2.5	11.7	--	--	--	20.4	8.3	20.4
Paper birch										
Sawtimber	--	--	--	--	--	--	--	--	--	--
Poletimber	3.3	--	--	--	--	--	--	--	--	3.3
Sapling & seedling	5.0	--	--	--	--	--	--	2.5	--	2.5
All stands	8.3	--	--	--	--	--	--	2.5	--	5.8
Exotic										
Sawtimber	--	--	--	--	--	--	--	--	--	--
Poletimber	--	--	--	--	--	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--	--	--	--
All stands	--	--	--	--	--	--	--	--	--	--
Nonstocked	8.6	--	--	--	--	--	--	2.5	--	6.1
All types										
Sawtimber	492.5	--	2.1	31.2	7.4	--	5.2	241.6	34.9	170.1
Poletimber	239.6	--	2.5	19.4	5.5	--	5.0	106.5	10.5	90.2
Sapling & seedling	168.5	--	--	16.9	--	--	5.3	78.7	11.1	56.5
Nonstocked	8.6	--	--	--	--	--	--	2.5	--	6.1
All stands	909.2	--	4.6	67.5	12.9	--	15.5	429.3	56.5	322.9

Table 8.--Area of commercial forest land by forest type and county, Southeast Unit, Wisconsin, 1983

(In thousand acres)

Forest type	All counties	County											
		Brown	Calumet	Columbia	Dane	Dodge	Door	Fond du Lac	Green	Green Lake	Jefferson	Kenosha	Kewaunee
Jack pine	2.7	--	--	--	2.7	--	--	--	--	--	--	--	--
Red pine	12.2	--	--	7.4	--	--	--	2.2	--	--	2.6	--	--
White pine	16.4	--	--	--	--	2.3	2.8	--	2.4	2.4	--	1.8	--
Balsam fir	--	--	--	--	--	--	--	--	--	--	--	--	--
White spruce	5.0	--	--	--	--	--	2.8	--	--	--	--	--	--
Black spruce	2.7	--	--	--	--	--	--	--	--	--	--	--	--
Northern white-cedar	53.6	--	--	--	--	--	29.7	--	--	--	--	--	5.2
Tamarack	9.2	--	--	--	--	--	--	2.1	--	2.3	--	--	--
Oak-hickory	292.8	4.9	2.5	49.6	68.4	4.5	2.7	8.6	18.9	14.0	10.7	7.2	--
Elm-ash-soft maple	200.5	10.0	9.8	2.5	2.8	9.2	24.5	8.4	4.8	--	--	--	21.1
Maple-birch	233.9	27.5	12.4	12.4	5.4	9.4	29.8	10.5	4.8	2.3	15.7	1.8	10.5
Aspen	63.3	5.0	--	12.3	10.9	2.2	11.2	2.1	--	--	--	--	--
Paper birch	8.3	--	--	--	--	--	--	--	--	--	--	--	--
Exotic	--	--	--	--	--	--	--	--	--	--	--	--	--
Nonstocked	8.6	--	--	--	--	--	2.8	--	--	--	--	--	--
All types	909.2	47.4	24.7	84.2	90.2	27.6	106.3	33.9	30.9	21.0	29.0	10.8	36.8

Forest type	County										
	Manitowoc	Milwaukee	Outagamie	Ozaukee	Racine	Rock	Sheboygan	Walworth	Washington	Waukesha	Winnebago
Jack pine	--	--	--	--	--	--	--	--	--	--	--
Red pine	--	--	--	--	--	--	--	--	--	--	--
White pine	--	--	2.5	--	--	--	2.2	--	--	--	--
Balsam fir	--	--	--	--	--	--	--	--	--	--	--
White spruce	--	--	--	--	--	--	2.2	--	--	--	--
Black spruce	2.7	--	--	--	--	--	--	--	--	--	--
Northern white-cedar	8.1	--	5.1	--	--	--	2.2	--	3.3	--	--
Tamarack	--	--	2.5	--	--	--	2.3	--	--	--	--
Oak-hickory	2.7	--	2.5	--	6.8	21.9	6.7	30.5	6.5	20.3	2.9
Elm-ash-soft maple	18.8	--	30.3	3.2	3.4	2.5	17.9	--	19.7	8.8	2.8
Maple-birch	21.5	--	15.3	9.8	3.3	2.5	15.8	5.1	9.6	--	8.5
Aspen	2.7	--	5.0	--	3.4	--	2.2	--	3.3	3.0	--
Paper birch	--	--	5.0	3.3	--	--	--	--	--	--	--
Exotic	--	--	--	--	--	--	--	--	--	--	--
Nonstocked	--	--	2.5	--	--	--	--	--	3.3	--	--
All types	56.5	--	70.7	16.3	16.9	26.9	51.5	35.6	45.7	32.1	14.2

Table 9.--Area of commercial forest land by county and stand-size class, Southeast Unit, Wisconsin, 1983

(In thousand acres)

County	All stands	Stand-size class			
		Sawtimber stands	Poletimber stands	Sapling and seedling stands	Nonstocked areas
Brown	47.4	27.4	10.0	10.0	--
Calumet	24.7	9.9	9.9	4.9	--
Columbia	84.2	37.1	29.8	17.3	--
Dane	90.2	73.8	11.0	5.4	--
Dodge	27.6	16.0	4.6	7.0	--
Door	106.3	37.9	30.1	35.5	2.8
Fond du Lac	33.9	21.2	4.2	8.5	--
Green	30.9	26.1	4.8	--	--
Green Lake	21.0	9.4	11.6	--	--
Jefferson	29.0	23.8	2.6	2.6	--
Kenosha	10.8	5.4	5.4	--	--
Kewaunee	36.8	23.7	13.1	--	--
Manitowoc	56.5	32.4	16.1	8.0	--
Outagamie	70.7	27.9	25.0	15.3	2.5
Ozaukee	16.3	3.2	6.6	6.5	--
Racine	16.9	6.8	--	10.1	--
Rock	26.9	19.5	4.9	2.5	--
Sheboygan	51.5	13.6	24.5	13.4	--
Walworth	35.6	35.6	--	--	--
Washington	45.7	12.9	19.6	9.9	3.3
Waukesha	32.1	20.3	3.0	8.8	--
Winnebago	14.2	8.6	2.8	2.8	--
All counties	909.2	492.5	239.6	168.5	8.6

Table 10.--Area of commercial forest land by forest type, stand-size class, and site class, Southeast Unit, Wisconsin, 1983

(In thousand acres)

Forest type and stand-size class	All classes	Site class (cubic feet of growth per acre per year)					
		225+	165-224	120-164	85-119	50-84	20-49
Jack pine							
Sawtimber	--	--	--	--	--	--	--
Poletimber	2.7	--	--	--	--	--	2.7
Sapling & seedling	--	--	--	--	--	--	--
All stands	2.7	--	--	--	--	--	2.7
Red pine							
Sawtimber	2.2	--	--	--	2.2	--	--
Poletimber	5.0	--	--	--	5.0	--	--
Sapling & seedling	5.0	--	--	--	2.5	2.5	--
All stands	12.2	--	--	--	9.7	2.5	--
White pine							
Sawtimber	4.9	--	--	4.9	--	--	--
Poletimber	8.7	--	--	1.8	4.5	--	2.4
Sapling & seedling	2.8	--	--	--	--	2.8	--
All stands	16.4	--	--	6.7	4.5	2.8	2.4
Balsam fir							
Sawtimber	--	--	--	--	--	--	--
Poletimber	--	--	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--
All stands	--	--	--	--	--	--	--
White spruce							
Sawtimber	--	--	--	--	--	--	--
Poletimber	2.2	--	--	--	2.2	--	--
Sapling & seedling	2.8	--	--	--	--	--	2.8
All stands	5.0	--	--	--	2.2	--	2.8
Black spruce							
Sawtimber	--	--	--	--	--	--	--
Poletimber	--	--	--	--	--	--	--
Sapling & seedling	2.7	--	--	--	--	--	2.7
All stands	2.7	--	--	--	--	--	2.7
Northern white-cedar							
Sawtimber	24.0	--	--	--	2.7	7.9	13.4
Poletimber	18.2	--	--	--	--	7.6	10.6
Sapling & seedling	11.4	--	--	--	--	6.0	5.4
All stands	53.6	--	--	--	2.7	21.5	29.4

(Table 10 continued on next page)

(Table 10 continued)

Forest type and stand-size class	All classes	Site class (cubic feet of growth per acre per year)					
		225+	165-224	120-164	85-119	50-84	20-49
Tamarack							
Sawtimber	2.1	--	--	--	--	2.1	--
Poletimber	4.6	--	--	--	--	4.6	--
Sapling & seedling	2.5	--	--	--	--	2.5	--
All stands	9.2	--	--	--	--	9.2	--
Oak-hickory							
Sawtimber	237.6	--	--	--	30.1	96.1	111.4
Poletimber	31.8	--	--	--	7.5	16.9	7.4
Sapling & seedling	23.4	--	--	--	2.2	10.2	11.0
All stands	292.8	--	--	--	39.8	123.2	129.8
Elm-ash-soft maple							
Sawtimber	77.2	--	--	--	17.7	22.9	36.6
Poletimber	83.1	--	--	--	17.5	28.7	36.9
Sapling & seedling	40.2	--	--	--	--	15.5	24.7
All stands	200.5	--	--	--	35.2	67.1	98.2
Maple-birch							
Sawtimber	133.6	--	--	5.2	35.0	61.3	32.1
Poletimber	56.6	--	--	5.3	8.4	25.9	17.0
Sapling & seedling	43.7	--	--	2.3	9.1	9.7	22.6
All stands	233.9	--	--	12.8	52.5	96.9	71.7
Aspen							
Sawtimber	10.9	--	--	--	8.1	2.8	--
Poletimber	23.4	--	--	2.5	13.1	2.5	5.3
Sapling & seedling	29.0	--	--	--	4.3	18.3	6.4
All stands	63.3	--	--	2.5	25.5	23.6	11.7
Paper birch							
Sawtimber	--	--	--	--	--	--	--
Poletimber	3.3	--	--	--	--	3.3	--
Sapling & seedling	5.0	--	--	--	--	2.5	2.5
All stands	8.3	--	--	--	--	5.8	2.5
Exotic							
Sawtimber	--	--	--	--	--	--	--
Poletimber	--	--	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--
All stands	--	--	--	--	--	--	--
Nonstocked	8.6	--	--	--	--	2.8	5.8
All types							
Sawtimber	492.5	--	--	10.1	95.8	193.1	193.5
Poletimber	239.6	--	--	9.6	58.2	89.5	82.3
Sapling & seedling	168.5	--	--	2.3	18.1	70.0	78.1
Nonstocked	8.6	--	--	--	--	2.8	5.8
All stands	909.2	--	--	22.0	172.1	355.4	359.7

Table 11.--Area of commercial forest land by forest type and stand-age class, Southeast Unit, Wisconsin, 1983

(In thousand acres)

Forest type	All ages	Stand-age class (years)												
		1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-140	141+
Jack pine	2.7	--	--	--	2.7	--	--	--	--	--	--	--	--	--
Red pine	12.2	--	10.0	--	2.2	--	--	--	--	--	--	--	--	--
White pine	16.4	2.8	2.3	4.0	--	4.9	--	--	--	2.4	--	--	--	--
Balsam fir	--	--	--	--	--	--	--	--	--	--	--	--	--	--
White spruce	5.0	2.8	--	--	2.2	--	--	--	--	--	--	--	--	--
Black spruce	2.7	--	2.7	--	--	--	--	--	--	--	--	--	--	--
Northern white-cedar	53.6	3.3	5.4	--	5.4	5.4	4.9	2.7	2.7	5.3	7.8	8.0	2.7	--
Tamarack	9.2	--	2.5	--	2.3	2.3	--	2.1	--	--	--	--	--	--
Oak-hickory	292.8	7.2	16.2	8.0	7.6	15.4	26.0	11.5	33.1	22.5	30.9	31.1	37.8	45.5
Elm-ash-soft maple	200.5	16.3	20.4	28.4	27.2	27.9	15.5	15.0	24.4	7.4	5.5	7.8	4.7	--
Maple-birch	233.9	21.0	22.7	20.5	15.8	10.5	30.8	24.0	23.3	13.4	24.9	12.9	11.4	2.7
Aspen	63.3	12.2	13.4	11.2	12.8	5.6	2.7	2.7	2.7	--	--	--	--	--
Paper birch	8.3	5.0	--	--	3.3	--	--	--	--	--	--	--	--	--
Exotic	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nonstocked	8.6	8.6	--	--	--	--	--	--	--	--	--	--	--	--
All types	909.2	79.2	95.6	72.1	81.5	72.0	79.9	58.0	86.2	51.0	69.1	59.8	56.6	48.2

Table 12.--Area of commercial forest land by forest type and site-index class, Southeast Unit, Wisconsin, 1983

(In thousand acres)

Forest type	All classes	Site-index class (feet)								
		11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91+
Jack pine	2.7	--	--	--	--	2.7	--	--	--	--
Red pine	12.2	--	--	--	--	--	2.2	10.0	--	--
White pine	16.4	--	--	2.4	--	2.8	2.2	6.6	2.4	--
Balsam fir	--	--	--	--	--	--	--	--	--	--
White spruce	5.0	--	--	2.8	--	--	--	2.2	--	--
Black spruce	2.7	--	--	--	2.7	--	--	--	--	--
Northern white-cedar	53.6	--	10.6	16.1	8.0	11.3	4.9	2.7	--	--
Tamarack	9.2	--	--	--	--	--	9.2	--	--	--
Oak-hickory	292.8	--	--	24.5	64.8	75.4	64.8	38.5	19.8	5.0
Elm-ash-soft maple	200.5	--	5.4	11.1	24.4	34.4	35.9	54.1	22.9	12.3
Maple-birch	233.9	--	--	2.5	12.4	56.8	61.2	52.3	31.0	17.7
Aspen	63.3	--	--	2.8	3.4	7.9	16.0	25.5	5.2	2.5
Paper birch	8.3	--	--	--	2.5	--	5.8	--	--	--
Exotic	--	--	--	--	--	--	--	--	--	--
Nonstocked	8.6	--	--	--	3.3	5.3	--	--	--	--
All types	909.2	--	16.0	62.2	121.5	196.6	202.2	191.9	81.3	37.5

Table 13.--Area of commercial forest land by forest type, stand-size class, and basal-area class, Southeast Unit, Wisconsin, 1983

(In thousand acres)

Forest type and stand-size class	All classes	Basal-area class (square feet per acre)													
		0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-150	151-180	181+
Jack pine															
Sawtimber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Poletimber	2.7	--	--	--	--	--	--	--	--	2.7	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
All stands	2.7	--	--	--	--	--	--	--	--	2.7	--	--	--	--	--
Red pine															
Sawtimber	2.2	--	--	--	--	--	--	--	--	--	--	--	--	2.2	--
Poletimber	5.0	--	--	--	--	--	--	2.4	--	2.6	--	--	--	--	--
Sapling & seedling	5.0	--	--	2.5	--	--	--	--	--	--	--	--	2.5	--	--
All stands	12.2	--	--	2.5	--	--	--	2.4	--	2.6	--	--	2.5	2.2	--
White pine															
Sawtimber	4.9	--	--	--	2.4	--	--	--	--	--	--	--	2.5	--	--
Poletimber	8.7	--	--	--	--	--	--	--	1.8	--	2.4	4.5	--	--	--
Sapling & seedling	2.8	2.8	--	--	--	--	--	--	--	--	--	--	--	--	--
All stands	16.4	2.8	--	--	2.4	--	--	--	1.8	--	2.4	4.5	2.5	--	--
Balsam fir															
Sawtimber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Poletimber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
All stands	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
White spruce															
Sawtimber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Poletimber	2.2	--	--	--	--	--	--	--	--	--	2.2	--	--	--	--
Sapling & seedling	2.8	--	2.8	--	--	--	--	--	--	--	--	--	--	--	--
All stands	5.0	--	2.8	--	--	--	--	--	--	--	2.2	--	--	--	--
Black spruce															
Sawtimber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Poletimber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sapling & seedling	2.7	--	--	--	--	--	--	2.7	--	--	--	--	--	--	--
All stands	2.7	--	--	--	--	--	--	2.7	--	--	--	--	--	--	--
Northern white-cedar															
Sawtimber	24.0	--	--	--	--	5.3	--	--	2.6	--	--	--	8.1	2.7	5.3
Poletimber	18.2	--	--	--	--	--	--	--	--	2.7	--	2.7	2.7	10.1	--
Sapling & seedling	11.4	--	--	3.3	--	--	--	--	2.7	2.7	--	2.7	--	--	--
All stands	53.6	--	--	3.3	--	5.3	--	--	5.3	5.4	--	5.4	10.8	12.8	5.3

(Table 13 continued on next page)

(Table 13 continued)

Forest type and stand-size class	All classes	Basal-area class (square feet per acre)													
		0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-150	151-180	181+
Tamarack															
Sawtimber	2.1	--	--	2.1	--	--	--	--	--	--	--	--	--	--	--
Poletimber	4.6	--	--	--	--	--	2.3	--	--	2.3	--	--	--	--	--
Sapling & seedling	2.5	--	2.5	--	--	--	--	--	--	--	--	--	--	--	--
All stands	9.2	--	2.5	2.1	--	--	2.3	--	--	2.3	--	--	--	--	--
Oak-hickory															
Sawtimber	237.6	--	2.4	2.1	2.5	14.9	9.8	20.4	30.8	38.3	23.6	56.6	23.5	12.7	--
Poletimber	31.8	--	--	--	--	--	2.5	--	4.5	7.8	7.4	5.3	4.3	--	--
Sapling & seedling	23.4	2.7	5.2	2.5	2.9	5.0	2.2	--	--	--	--	2.9	--	--	--
All stands	292.8	2.7	7.6	4.6	5.4	19.9	14.5	20.4	35.3	46.1	31.0	64.8	27.8	12.7	--
Elm-ash-soft maple															
Sawtimber	77.2	--	--	6.9	10.1	2.5	10.6	2.8	10.3	2.3	11.2	13.3	--	2.5	4.7
Poletimber	83.1	--	7.7	17.6	5.8	5.0	7.7	4.9	2.5	5.3	4.9	5.8	4.9	11.0	--
Sapling & seedling	40.2	--	7.8	2.2	12.0	7.7	--	5.3	2.7	2.5	--	--	--	--	--
All stands	200.5	--	15.5	26.7	27.9	15.2	18.3	13.0	15.5	10.1	16.1	19.1	4.9	13.5	4.7
Maple-birch															
Sawtimber	133.6	--	--	--	2.6	7.7	10.1	5.4	22.2	16.3	18.2	18.4	20.6	6.7	5.4
Poletimber	56.6	--	--	2.5	--	5.7	5.6	--	7.4	5.1	10.5	10.1	6.9	2.8	--
Sapling & seedling	43.7	2.5	2.8	2.2	2.2	4.8	3.3	2.3	8.1	12.7	--	2.8	--	--	--
All stands	233.9	2.5	2.8	4.7	4.8	18.2	19.0	7.7	37.7	34.1	28.7	31.3	27.5	9.5	5.4
Aspen															
Sawtimber	10.9	--	--	--	--	--	2.7	--	--	--	2.8	5.4	--	--	--
Poletimber	23.4	--	--	5.3	--	2.8	2.5	--	2.8	2.5	7.5	--	--	--	--
Sapling & seedling	29.0	2.4	2.1	2.7	2.4	8.0	--	6.4	--	2.8	2.2	--	--	--	--
All stands	63.3	2.4	2.1	8.0	2.4	10.8	5.2	6.4	2.8	5.3	12.5	5.4	--	--	--
Paper birch															
Sawtimber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Poletimber	3.3	--	--	--	--	--	--	--	--	--	--	3.3	--	--	--
Sapling & seedling	5.0	--	5.0	--	--	--	--	--	--	--	--	--	--	--	--
All stands	8.3	--	5.0	--	--	--	--	--	--	--	--	3.3	--	--	--
Exotic															
Sawtimber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Poletimber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
All stands	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nonstocked	8.6	2.8	5.8	--	--	--	--	--	--	--	--	--	--	--	--
All types															
Sawtimber	492.5	--	2.4	11.1	17.6	30.4	33.2	28.6	65.9	56.9	55.8	93.7	54.7	26.8	15.4
Poletimber	239.6	--	7.7	25.4	5.8	13.5	20.6	7.3	19.0	31.0	34.9	31.7	18.8	23.9	--
Sapling & seedling	168.5	10.4	28.2	15.4	19.5	25.5	5.5	16.7	13.5	20.7	2.2	8.4	2.5	--	--
Nonstocked	8.6	2.8	5.8	--	--	--	--	--	--	--	--	--	--	--	--
All stands	909.2	13.2	44.1	51.9	42.9	69.4	59.3	52.6	98.4	108.6	92.9	133.8	76.0	50.7	15.4

Table 14.--Area of commercial forest land by stocking class of growing-stock trees and stand-size class, Southeast Unit, Wisconsin, 1983

(In thousand acres)

Stocking class (percent)	All stands	Stand-size class			
		Sawtimber stands	Poletimber stands	Sapling and seedling stands	Nonstocked areas
Less than 16.7	8.6	--	--	--	8.6
16.7 to 60.9	280.2	154.3	70.4	55.5	--
61.0 to 100.9	398.2	234.5	108.3	55.4	--
101.0 to 133.9	196.2	93.2	50.6	52.4	--
134.0+	26.0	10.5	10.3	5.2	--
All classes	909.2	492.5	239.6	168.5	8.6

Table 15.--Area of commercial forest land in plantations by forest type and stand-age class, Southeast Unit, Wisconsin, 1983

(In thousand acres)

Forest type	All ages	Stand-age class (years)												
		1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-140	141+
Jack pine	2.7	--	--	--	2.7	--	--	--	--	--	--	--	--	--
Red pine	12.2	--	10.0	--	2.2	--	--	--	--	--	--	--	--	--
White pine	11.7	2.8	--	4.0	--	4.9	--	--	--	--	--	--	--	--
White spruce	2.2	--	--	--	2.2	--	--	--	--	--	--	--	--	--
Black spruce	2.7	--	2.7	--	--	--	--	--	--	--	--	--	--	--
All types	31.5	2.8	12.7	4.0	7.1	4.9	--	--	--	--	--	--	--	--

Table 16.--Area of commercial forest land with conifer understory by forest type and conifer understory species, Southeast Unit, Wisconsin, 1983

(In thousand acres)

Forest type	All species	Conifer understory species									
		White pine	Red pine	Jack pine	Balsam fir	White spruce	Black spruce	Hemlock	Northern white-cedar	Eastern redcedar	Other softwoods
Jack pine	--	--	--	--	--	--	--	--	--	--	--
Red pine	--	--	--	--	--	--	--	--	--	--	--
White pine	2.8	2.8	--	--	--	--	--	--	--	--	--
Balsam fir	--	--	--	--	--	--	--	--	--	--	--
White spruce	2.8	2.8	--	--	--	--	--	--	--	--	--
Black spruce	2.7	--	--	--	--	--	2.7	--	--	--	--
Northern white-cedar	29.1	--	--	--	8.0	--	--	--	21.1	--	--
Tamarack	7.1	--	--	--	--	--	--	--	2.3	--	4.8
Oak-hickory	35.0	5.3	2.5	2.5	--	--	--	--	2.7	22.0	--
Elm-ash-soft maple	23.9	--	--	--	--	--	2.7	--	18.4	2.8	--
Maple-birch	16.4	--	2.8	--	2.7	5.8	--	2.7	2.4	--	--
Aspen	5.6	--	--	--	5.6	--	--	--	--	--	--
Paper birch	--	--	--	--	--	--	--	--	--	--	--
Exotic	--	--	--	--	--	--	--	--	--	--	--
Nonstocked	--	--	--	--	--	--	--	--	--	--	--
All types	125.4	10.9	5.3	2.5	16.3	5.8	5.4	2.7	46.9	24.8	4.8

Table 17.--Area of noncommercial forest land by ownership class, Southeast Unit, Wisconsin, 1983

(In thousand acres)

Ownership class	All areas	Unproductive areas	Productive-reserved areas
National Forest	--	--	--
Miscellaneous federal	--	--	--
State	18.6	--	18.6
County and municipal	3.3	--	3.3
Indian	--	--	--
Forest industry	--	--	--
Farmer	2.7	--	2.7
Misc. private-corp.	--	--	--
Misc. private-indiv.	3.7	2.9	0.8
Total	28.3	2.9	25.4

Table 18.--Area of noncommercial forest land by forest type, Southeast Unit, Wisconsin, 1983

(In thousand acres)

Forest type	All areas	Unproductive areas	Productive-reserved areas
Jack pine	--	--	--
Red pine	1.1	--	1.1
White pine	2.7	--	2.7
Balsam fir	--	--	--
White spruce	--	--	--
Black spruce	--	--	--
Northern white-cedar	--	--	--
Tamarack	--	--	--
Oak-hickory	6.3	--	6.3
Elm-ash-soft maple	5.5	2.9	2.6
Maple-birch	9.6	--	9.6
Aspen	3.1	--	3.1
Paper birch	--	--	--
Exotic	--	--	--
Nonstocked	--	--	--
All types	28.3	2.9	25.4

Table 19.--Number of all live trees on commercial forest land by species group and diameter class, Southeast Unit, Wisconsin, 1983

(In thousand trees)

Species group	All classes	Diameter class (inches at breast height) 1.0-2.9	3.0-4.9	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0-28.9	29.0-38.9	39.0+
Softwoods															
Jack pine	1,240	242	242	629	64	44	19	--	--	--	--	--	--	--	--
Red pine	5,895	242	1,954	2,064	952	586	71	26	--	--	--	--	--	--	--
White pine	10,365	4,616	3,014	1,522	746	125	129	102	56	20	20	6	9	--	--
White spruce	1,658	568	284	477	169	102	34	21	--	--	--	--	3	--	--
Black spruce	1,632	527	788	250	67	--	--	--	--	--	--	--	--	--	--
Balsam fir	5,754	2,657	2,655	316	92	22	12	--	--	--	--	--	--	--	--
Hemlock	1,015	263	--	426	198	68	41	13	--	6	--	--	--	--	--
Tamarack	4,885	1,995	1,558	363	704	94	133	8	7	19	4	--	--	--	--
Eastern redcedar	6,493	4,433	1,055	831	140	19	--	--	15	--	--	--	--	--	--
Northern white-cedar	50,882	28,382	6,357	8,157	4,422	2,258	806	358	106	20	11	3	2	--	--
Other softwoods	94	--	--	41	53	--	--	--	--	--	--	--	--	--	--
Total	89,913	43,925	17,907	15,076	7,607	3,318	1,245	528	184	65	35	9	14	--	--
Hardwoods															
White oak	15,150	5,431	1,694	1,317	1,116	990	1,071	1,072	718	599	419	299	310	103	11
Select red oak	10,331	3,185	3,411	179	917	441	457	441	342	307	198	196	202	53	2
Other red oak	15,079	8,364	996	2,230	834	685	442	592	389	186	178	98	74	10	1
Select hickory	18,143	11,437	2,310	1,334	1,046	849	658	257	146	81	19	--	6	--	--
Other hickory	7,227	4,543	1,048	1,159	208	109	113	14	33	--	--	--	--	--	--
Basswood	23,375	17,995	2,890	816	407	463	197	229	122	71	78	37	48	22	--
Beech	4,480	2,305	1,036	196	168	184	251	138	50	88	25	31	8	--	--
Yellow birch	2,837	513	456	1,084	239	318	122	75	14	12	--	4	--	--	--
Hard maple	23,360	12,491	4,136	2,716	1,247	764	838	341	294	139	146	98	97	49	4
Soft maple	19,884	10,823	3,560	2,251	773	902	511	337	294	186	72	95	48	27	5
Elm	35,842	21,778	6,671	2,912	2,117	1,097	582	289	211	64	72	7	30	11	1
Black ash	23,870	13,011	3,818	3,424	2,201	897	346	75	79	14	5	--	--	--	--
White & green ash	46,353	32,619	5,878	2,264	2,005	1,603	974	492	256	108	60	10	69	15	--
Cottonwood	319	--	--	--	163	64	51	19	--	6	5	--	2	5	4
Willow	5,078	3,344	456	562	222	69	96	62	88	78	37	23	31	10	--
Hackberry	268	237	--	--	--	--	15	11	--	--	--	--	5	--	--
Balsam poplar	700	266	266	--	--	70	--	40	32	10	7	5	4	--	--
Bigtooth aspen	5,577	3,632	--	650	289	283	447	208	59	7	--	--	--	2	--
Quaking aspen	30,963	15,605	6,777	4,639	1,984	1,133	491	215	90	21	8	--	--	--	--
Paper birch	17,497	9,725	4,257	991	1,544	625	235	70	38	12	--	--	--	--	--
River birch	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Black cherry	27,273	16,263	5,778	2,002	1,091	802	583	429	162	80	47	17	19	--	--
Black walnut	1,702	953	--	448	85	16	43	74	16	54	13	--	--	--	--
Butternut	1,359	1,082	--	--	129	88	13	28	7	--	8	4	--	--	--
Other hardwoods	15,953	7,814	4,172	2,102	1,059	390	185	122	56	48	--	--	3	2	--
Noncommercial species	42,328	28,831	8,747	3,210	1,129	304	107	--	--	--	--	--	--	--	--
Total	394,948	232,247	68,357	36,486	20,973	13,146	8,828	5,630	3,496	2,171	1,397	924	956	309	28
All species	484,861	276,172	86,264	51,562	28,580	16,464	10,073	6,158	3,680	2,236	1,432	933	970	309	28

Table 20.--Number of growing-stock trees on commercial forest land by species group and diameter class, Southeast Unit, Wisconsin, 1983

(In thousand trees)

Species group	All classes	Diameter class (inches at breast height) 1.0-2.9	3.0-4.9	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0-28.9	29.0-38.9	39.0+
Softwoods															
Jack pine	1,240	242	242	629	64	44	19	--	--	--	--	--	--	--	--
Red pine	5,826	242	1,954	2,064	910	559	71	26	--	--	--	--	--	--	--
White pine	10,265	4,616	3,014	1,471	699	125	129	102	56	20	20	6	7	--	--
White spruce	1,658	568	284	477	169	102	34	21	--	--	--	--	3	--	--
Black spruce	1,632	527	788	250	67	--	--	--	--	--	--	--	--	--	--
Balsam fir	5,754	2,657	2,655	316	92	22	12	--	--	--	--	--	--	--	--
Hemlock	894	263	--	375	141	68	28	13	--	6	--	--	--	--	--
Tamarack	4,856	1,995	1,558	363	704	65	133	8	7	19	4	--	--	--	--
Eastern redcedar	5,803	4,191	774	725	98	--	--	--	15	--	--	--	--	--	--
Northern white-cedar	48,570	28,119	6,094	7,185	4,144	1,919	696	316	77	20	--	--	--	--	--
Other softwoods	94	--	--	41	53	--	--	--	--	--	--	--	--	--	--
Total	86,592	43,420	17,363	13,896	7,141	2,904	1,122	486	155	65	24	6	10	--	--
Hardwoods															
White oak	12,846	5,431	1,452	1,020	726	817	761	812	522	477	325	228	204	61	10
Select red oak	9,689	3,185	3,411	179	635	406	364	391	288	307	174	153	160	34	2
Other red oak	12,820	8,122	754	1,281	714	540	362	392	260	152	105	88	42	8	--
Select hickory	17,259	11,437	2,310	848	981	746	550	184	108	70	19	--	6	--	--
Other hickory	7,125	4,543	1,048	1,103	208	96	80	14	33	--	--	--	--	--	--
Basswood	22,591	17,995	2,653	548	373	414	182	201	56	65	34	24	31	15	--
Beech	4,157	2,305	1,036	196	111	131	166	82	17	76	10	22	5	--	--
Yellow birch	2,549	513	456	1,019	209	253	58	22	14	5	--	--	--	--	--
Hard maple	22,492	12,491	4,136	2,402	1,112	718	772	251	217	104	117	69	84	19	--
Soft maple	18,652	10,823	3,299	2,016	664	639	398	288	232	130	58	59	30	15	1
Elm	32,943	20,910	6,197	2,258	1,701	877	453	246	160	50	56	3	23	8	1
Black ash	22,220	12,479	3,023	3,424	2,122	693	324	75	72	8	--	--	--	--	--
White & green ash	44,821	32,353	5,636	1,789	1,942	1,396	869	406	217	93	55	10	44	11	--
Cottonwood	173	--	--	--	53	64	25	9	--	6	5	--	2	5	4
Willow	4,279	3,344	228	235	142	23	81	34	75	68	25	10	14	--	--
Hackberry	268	237	--	--	--	--	15	11	--	--	--	--	5	--	--
Balsam poplar	686	266	266	--	--	70	--	40	32	--	7	5	--	--	--
Bigtooth aspen	5,115	3,632	--	394	184	283	422	149	42	7	--	--	--	2	--
Quaking aspen	29,102	15,346	6,251	4,270	1,652	962	385	137	70	21	8	--	--	--	--
Paper birch	16,894	9,347	4,257	991	1,376	625	190	70	38	--	--	--	--	--	--
River birch	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Black cherry	24,787	15,776	5,016	1,788	768	541	404	270	110	64	34	5	11	--	--
Black walnut	1,568	953	--	378	53	16	31	62	16	54	5	--	--	--	--
Butternut	1,320	1,082	--	--	107	88	13	11	7	--	8	4	--	--	--
Other hardwoods	12,960	7,572	3,268	1,437	356	221	52	37	9	8	--	--	--	--	--
Total	327,316	200,142	54,697	27,576	16,189	10,619	6,957	4,194	2,595	1,765	1,045	680	661	178	18
All species	413,908	243,562	72,060	41,472	23,330	13,523	8,079	4,680	2,750	1,830	1,069	686	671	178	18

Table 21.--Net volume of growing stock on commercial forest land by species group, Southeast Unit, Wisconsin, 1968 and 1983

(In thousand cubic feet)

Species group	1968[1/]	1983
Softwoods		
Jack pine	849	2,629
Red pine	2,442	19,687
White pine	4,671	16,386
White spruce	955	4,425
Black spruce	106	827
Balsam fir	1,805	1,989
Hemlock	4,458	2,506
Tamarack	7,325	10,043
Eastern redcedar	106	2,089
Northern white-cedar	54,883	75,064
Other softwoods	--	341
Total	77,600	135,986
Hardwoods		
White oak	72,950	109,832
Select red oak	72,373	76,541
Other red oak	32,678	49,150
Select hickory	24,509	34,079
Other hickory	2,499	8,197
Basswood	19,223	27,278
Beech	11,726	12,848
Yellow birch	3,844	6,990
Hard maple	44,885	68,998
Soft maple	33,159	54,651
Elm	101,495	43,684
Black ash	24,509	41,553
White and green ash	37,676	72,123
Cottonwood	4,998	4,426
Willow	5,478	12,161
Hackberry	288	843
Balsam poplar	3,941	3,286
Bigtooth aspen	12,879	19,159
Quaking aspen	39,599	46,395
Paper birch	16,435	23,223
River birch	--	--
Black cherry	15,570	38,345
Black walnut	2,307	6,156
Butternut	961	2,633
Other hardwoods	2,018	9,646
Total	586,000	772,197
All species	663,600	908,183

[1/] 1968 growing-stock volumes have been adjusted from those published after the 1968 survey to conform to 1983 volumes because of changes in volume equations.

Table 22.--Net volume of all live trees on commercial forest land by species group and diameter class, Southeast Unit, Wisconsin, 1983

(In thousand cubic feet)

Species group	All classes	Diameter class (inches at breast height) 5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0-28.9	29.0-38.9	39.0+
Softwoods													
Jack pine	2,629	1,647	292	453	237	--	--	--	--	--	--	--	--
Red pine	20,104	7,050	5,525	5,678	1,227	624	--	--	--	--	--	--	--
White pine	16,710	2,440	2,946	1,060	2,046	2,705	1,945	1,019	1,290	445	814	--	--
White spruce	4,425	1,129	915	1,091	562	503	--	--	--	--	225	--	--
Black spruce	827	448	379	--	--	--	--	--	--	--	--	--	--
Balsam fir	1,989	891	645	181	272	--	--	--	--	--	--	--	--
Hemlock	2,814	731	778	558	461	131	--	155	--	--	--	--	--
Tamarack	10,268	1,333	4,407	827	2,371	169	171	810	180	--	--	--	--
Eastern redcedar	2,464	1,588	490	92	--	--	294	--	--	--	--	--	--
Northern white-cedar	82,960	20,119	22,217	18,773	10,411	7,269	2,718	786	312	174	181	--	--
Other softwoods	341	101	240	--	--	--	--	--	--	--	--	--	--
Total	145,531	37,477	38,834	28,713	17,587	11,401	5,128	2,770	1,782	619	1,220	--	--
Hardwoods													
White oak	144,788	2,914	5,236	7,641	12,985	18,345	16,834	18,588	16,023	14,535	19,590	9,991	2,106
Select red oak	88,430	596	5,376	4,470	6,687	9,151	9,687	11,414	8,860	10,963	14,705	6,118	403
Other red oak	67,874	4,392	4,416	5,947	6,127	11,149	10,729	6,556	7,680	5,091	4,563	1,064	160
Select hickory	40,445	4,521	6,049	7,929	9,059	4,915	3,745	2,974	879	--	374	--	--
Other hickory	8,801	3,718	1,315	937	1,610	318	903	--	--	--	--	--	--
Basswood	34,884	2,173	2,528	4,435	3,070	5,013	3,515	2,929	3,605	1,970	3,400	2,246	--
Beech	17,475	617	898	1,958	3,857	2,376	1,242	3,135	1,012	1,741	639	--	--
Yellow birch	9,674	1,594	1,163	2,824	1,693	1,271	510	406	--	213	--	--	--
Hard maple	82,512	8,427	7,372	7,525	13,079	7,094	8,352	5,328	6,595	5,748	7,805	4,933	254
Soft maple	69,191	7,716	4,705	8,527	7,997	7,518	8,893	6,935	3,448	5,150	3,527	3,677	1,098
Elm	53,978	4,187	9,343	9,670	8,147	5,778	5,872	2,440	3,446	446	2,751	1,626	272
Black ash	43,976	13,686	13,439	8,040	4,902	1,448	2,015	367	79	--	--	--	--
White & green ash	81,401	6,715	11,985	15,738	14,899	10,328	7,247	3,989	2,844	637	5,385	1,634	--
Cottonwood	5,354	--	558	701	758	459	--	220	231	--	246	1,067	1,114
Willow	18,414	807	723	588	1,698	1,260	2,925	3,286	1,861	1,394	2,666	1,206	--
Hackberry	843	--	--	--	215	240	--	--	--	--	388	--	--
Balsam poplar	3,762	--	--	807	--	838	849	327	392	400	149	--	--
Bigtooth aspen	21,938	1,885	1,542	3,323	8,066	4,915	1,667	309	--	--	--	231	--
Quaking aspen	52,412	15,534	11,192	10,878	6,769	4,356	2,491	841	351	--	--	--	--
Paper birch	25,026	3,846	9,139	6,040	3,183	1,391	1,066	361	--	--	--	--	--
River birch	--	--	--	--	--	--	--	--	--	--	--	--	--
Black cherry	51,951	7,914	6,967	8,334	8,821	8,920	4,402	2,630	1,941	739	1,283	--	--
Black walnut	7,273	1,575	461	159	596	1,503	546	1,944	489	--	--	--	--
Butternut	3,116	--	772	925	179	515	247	--	243	235	--	--	--
Other hardwoods	19,536	5,802	4,631	3,032	1,942	1,813	1,114	988	--	--	57	157	--
Noncommercial species	13,914	5,881	4,656	2,141	1,236	--	--	--	--	--	--	--	--
Total	966,968	104,500	114,466	122,569	127,575	110,914	94,851	75,967	59,979	49,262	67,528	33,950	5,407
All species	1,112,499	141,977	153,300	151,282	145,162	122,315	99,979	78,737	61,761	49,881	68,748	33,950	5,407

Table 23.--Net volume of timber on commercial forest land by class of timber and softwoods and hardwoods, Southeast Unit, Wisconsin, 1983

(In thousand cubic feet)

Class of timber	All species	Softwoods	Hardwoods
Live trees			
Growing-stock trees			
Poletimber	354,787	72,342	282,445
Sawtimber			
Saw log portion	383,441	47,305	336,136
Upper stem portion	169,955	16,339	153,616
Subtotal	553,396	63,644	489,752
Total growing stock	908,183	135,986	772,197
Cull trees			
Rough and rotten cull tree			
Poletimber	63,059	3,969	59,090
Sawtimber	84,990	4,622	80,368
Subtotal	148,049	8,591	139,458
Short-log trees	56,267	954	55,313
Total cull	204,316	9,545	194,771
All live trees	1,112,499	145,531	966,968
Salvable dead trees			
Growing-stock trees	12,978	1,665	11,313
Cull trees	729	--	729
All salvable dead trees	13,707	1,665	12,042
All classes	1,126,206	147,196	979,010

Table 24.--Net volume of growing-stock, sawtimber, short-log, and rough and rotten trees on commercial forest land by individual species, Southeast Unit, Wisconsin 1983

Species	Total all live	All live trees			Total saw log	Saw log-size trees	
		Growing stock	Short-log cull	Rough and rotten cull		Sawtimber	Short-log
	-Thousand cubic feet-				-Thousand board feet[1]-		
Softwoods							
Jack pine	2,629	2,629	--	--	3,561	3,561	--
Red pine	20,104	19,687	--	417	41,833	41,833	--
White pine	16,710	16,386	--	324	57,630	57,630	--
White spruce	4,425	4,425	--	--	11,350	11,350	--
Black spruce	827	827	--	--	--	--	--
Balsam fir	1,989	1,989	--	--	2,000	2,000	--
Hemlock	2,814	2,506	--	308	5,006	5,006	--
Tamarack	10,268	10,043	--	225	23,041	23,041	--
Eastern redcedar	2,464	2,089	--	375	1,734	1,734	--
Northern white-cedar	82,960	75,064	954	6,942	182,542	179,244	3,298
Norway spruce	341	341	--	--	--	--	--
Total	145,531	135,986	954	8,591	328,697	325,399	3,298
Hardwoods							
White oak	92,113	71,950	9,015	11,148	346,690	323,357	23,333
Swamp white oak	9,793	8,486	752	555	37,701	35,769	1,932
Bur oak	42,882	29,396	3,881	9,605	140,524	130,585	9,939
Northern red oak	88,430	76,541	4,712	7,177	347,862	337,065	10,797
Northern pin oak	11,944	7,581	201	4,162	17,710	17,264	446
Black oak	55,930	41,569	7,350	7,011	180,984	164,153	16,831
Shagbark hickory	40,445	34,079	1,912	4,454	101,661	96,411	5,250
Bitternut hickory	8,801	8,197	--	604	12,407	12,407	--
American basswood	34,884	27,278	3,341	4,265	103,623	96,363	7,260
Beech	17,475	12,848	587	4,040	54,678	53,080	1,598
Yellow birch	9,674	6,990	207	2,477	9,797	9,302	495
Sugar maple	82,512	68,998	5,259	8,255	256,084	242,902	13,182
Red maple	65,627	52,874	4,335	8,418	183,324	172,081	11,243
Silver maple	3,564	1,777	463	1,324	9,193	7,997	1,196
American elm	39,898	32,537	1,463	5,898	86,534	82,716	3,818
Slippery elm	13,641	10,708	856	2,077	28,713	26,534	2,179
Rock elm	439	439	--	--	--	--	--
Black ash	43,976	41,553	156	2,267	50,037	49,617	420
White ash	34,010	30,759	670	2,581	100,370	98,896	1,474
Green ash	47,391	41,364	2,007	4,020	121,141	116,535	4,606
Eastern cottonwood	5,354	4,426	389	539	17,097	15,931	1,166
Black willow	18,414	12,161	1,889	4,364	52,097	46,317	5,780
Hackberry	843	843	--	--	3,841	3,841	--
Balsam poplar	3,762	3,286	327	149	12,233	11,434	799
Bigtooth aspen	21,938	19,159	1,121	1,658	63,588	61,791	1,797
Quaking aspen	52,412	46,395	428	5,589	61,666	60,688	978
Paper birch	25,026	23,223	--	1,803	26,361	26,361	--
River birch	--	--	--	--	--	--	--
Black cherry	51,951	38,345	2,742	10,864	117,775	110,756	7,019
Black walnut	7,273	6,156	320	797	24,637	23,844	793
Butternut	3,116	2,633	--	483	6,018	6,018	--
Boxelder	12,375	4,962	719	6,694	10,436	7,797	2,639
Northern catalpa	397	--	--	397	--	--	--
Red mulberry	1,157	205	--	952	--	--	--
Black locust	5,607	4,479	211	917	1,984	1,235	749
Total	953,054	772,197	55,313	125,544	2,586,766	2,449,047	137,719
All species[2]	1,098,585	908,183	56,267	134,135	2,915,463	2,774,446	141,017

[1] International 1/4-inch rule.

[2] These totals do not include volume for noncommercial species. Volumes for individual noncommercial species are found in Table 25.

Table 25.--Net volume of noncommercial species on commercial forest land by individual species, Southeast Unit, Wisconsin, 1983

(In thousand cubic feet)

Species	Cull volume
Hawthorn	1,839
Eastern hophornbeam	11,082
Chokecherry	993
All species	13,914

Table 26.--Net volume of growing stock on commercial forest land by species group and county, Southeast Unit, Wisconsin, 1983

(In thousand cubic feet)

Species group	All counties	County											
		Brown	Calumet	Columbia	Dane	Dodge	Door	Fond du Lac	Green	Green Lake	Jefferson	Kenosha	Kewaunee
Softwoods													
Jack pine	2,629	--	--	267	2,362	--	--	--	--	--	--	--	--
Red pine	19,687	--	--	3,774	--	--	--	6,903	--	511	4,987	--	--
White pine	16,386	--	--	777	250	1,116	1,055	--	1,470	1,285	--	743	433
White spruce	4,425	--	--	445	--	--	1,778	--	225	--	--	--	--
Black spruce	827	--	--	--	--	--	227	--	--	--	--	--	--
Balsam fir	1,989	--	--	--	--	--	1,989	--	--	--	--	--	--
Hemlock	2,506	207	--	--	--	--	736	--	--	--	--	--	1,409
Tamarack	10,043	--	--	252	923	--	1,022	685	--	2,265	--	--	1,327
Eastern redcedar	2,089	419	--	99	294	--	1,034	--	--	--	--	--	--
Northern white-cedar	75,064	215	2,772	--	--	--	37,951	--	--	--	--	--	12,983
Other softwoods	341	--	--	--	--	--	--	--	--	--	--	341	--
Total	135,986	841	2,772	5,614	3,829	1,116	45,792	7,588	1,695	4,061	4,987	1,084	16,152
Hardwoods													
White oak	109,832	1,431	--	19,715	25,192	2,114	--	3,661	5,183	4,274	8,629	2,074	--
Select red oak	76,541	4,224	432	11,855	7,349	1,174	2,109	2,447	4,303	3,833	6,530	1,134	305
Other red oak	49,150	--	--	20,475	15,811	--	--	2,994	552	2,421	240	77	--
Select hickory	34,079	--	393	1,089	4,444	--	--	1,345	1,657	2,021	3,557	1,564	--
Other hickory	8,197	--	222	368	2,439	4,189	--	--	218	--	--	89	526
Basswood	27,278	3,557	3,282	3,589	--	541	1,183	1,145	637	--	2,359	163	1,945
Beech	12,848	1,302	816	--	--	--	1,456	2,783	--	--	--	--	402
Yellow birch	6,990	866	679	--	--	--	1,062	--	--	--	--	--	2,440
Hard maple	68,998	7,727	841	--	--	350	16,110	4,288	2,982	--	6,118	--	5,213
Soft maple	54,651	12,798	802	274	1,657	1,559	3,124	1,119	--	1,626	--	--	5,290
Elm	43,684	4,697	817	1,581	1,803	947	3,672	2,812	5,745	93	2,461	111	928
Black ash	41,553	1,479	--	--	--	838	6,594	1,060	1,957	--	487	--	3,784
White & green ash	72,123	9,234	4,474	590	--	3,115	10,845	1,261	495	--	3,778	905	4,250
Cottonwood	4,426	--	--	269	231	--	--	822	1,408	--	--	--	--
Willow	12,161	374	--	--	--	--	789	1,677	--	--	--	--	2,006
Hackberry	843	--	--	455	--	--	--	--	--	--	388	--	--
Balsam poplar	3,286	--	--	--	--	--	2,702	--	--	--	--	--	--
Bigtooth aspen	19,159	1,791	--	2,071	3,123	686	4,758	--	986	--	--	--	231
Quaking aspen	46,395	4,845	640	8,377	4,648	1,403	10,677	869	164	868	--	--	171
Paper birch	23,223	1,571	368	293	695	--	6,612	452	--	205	--	--	765
River birch	--	--	--	--	--	--	--	--	--	--	--	--	--
Black cherry	38,345	--	--	6,848	9,066	509	2,547	2,170	1,462	1,229	1,578	--	575
Black walnut	6,156	--	--	--	2,754	--	--	226	1,849	--	--	81	--
Butternut	2,633	247	--	215	--	--	--	--	235	--	--	--	1,246
Other hardwoods	9,646	--	685	2,377	4,191	110	--	143	--	--	205	--	--
Total	772,197	56,143	14,451	80,441	83,403	17,535	74,240	31,274	29,833	16,570	36,330	6,198	30,077
All species	908,183	56,984	17,223	86,055	87,232	18,651	120,032	38,862	31,528	20,631	41,317	7,282	46,229

(Table 26 continued on next page)

(Table 26 continued)

Species group	County										
	Manitowoc	Milwaukee	Outagamie	Ozaukee	Racine	Rock	Sheboygan	Walworth	Washington	Waukesha	Winnebago
Softwoods											
Jack pine	--	--	--	--	--	--	--	--	--	--	--
Red pine	--	--	3,064	--	--	162	286	--	--	--	--
White pine	4,132	--	3,857	--	--	--	1,018	--	250	--	--
White spruce	--	--	--	--	--	--	1,977	--	--	--	--
Black spruce	600	--	--	--	--	--	--	--	--	--	--
Balsam fir	--	--	--	--	--	--	--	--	--	--	--
Hemlock	154	--	--	--	--	--	--	--	--	--	--
Tamarack	921	--	964	352	--	--	1,030	--	302	--	--
Eastern redcedar	--	--	243	--	--	--	--	--	--	--	--
Northern white-cedar	7,298	--	5,494	1,219	--	--	5,428	--	1,704	--	--
Other softwoods	--	--	--	--	--	--	--	--	--	--	--
Total	13,105	--	13,622	1,571	--	162	9,739	--	2,256	--	--
Hardwoods											
White oak	762	--	2,226	1,253	1,797	7,520	1,465	13,635	1,492	6,634	775
Select red oak	3,692	--	1,045	--	492	907	6,699	5,257	1,604	8,014	3,136
Other red oak	--	--	--	--	640	4,459	394	842	--	245	--
Select hickory	--	--	--	--	1,233	3,605	1,443	6,956	605	943	3,224
Other hickory	--	--	146	--	--	--	--	--	--	--	--
Basswood	309	--	1,146	390	--	--	839	--	2,558	--	3,635
Beech	1,133	--	2,247	2,498	--	--	211	--	--	--	--
Yellow birch	--	--	483	--	--	--	545	--	915	--	--
Hard maple	8,617	--	2,324	1,639	854	--	7,147	--	4,028	--	760
Soft maple	9,609	--	7,350	--	--	174	1,136	--	6,713	796	624
Elm	2,364	--	6,445	965	--	1,111	2,233	223	2,312	380	1,984
Black ash	796	--	11,011	1,219	--	--	1,274	--	6,850	2,556	1,648
White & green ash	7,598	--	4,504	4,560	534	764	6,399	--	2,452	--	6,365
Cottonwood	950	--	--	--	--	746	--	--	--	--	--
Willow	536	--	5,360	--	--	1,327	92	--	--	--	--
Hackberry	--	--	--	--	--	--	--	--	--	--	--
Balsam poplar	584	--	--	--	--	--	--	--	--	--	--
Bigtooth aspen	1,274	--	1,621	--	--	--	591	--	--	--	2,027
Quaking aspen	3,032	--	3,324	--	513	--	1,068	1,587	1,019	1,520	1,670
Paper birch	2,733	--	3,877	4,331	--	--	1,321	--	--	--	--
River birch	--	--	--	--	--	--	--	--	--	--	--
Black cherry	1,257	--	602	--	204	2,298	703	4,157	1,319	1,821	--
Black walnut	--	--	--	--	--	832	--	414	--	--	--
Butternut	--	--	--	--	--	--	447	--	243	--	--
Other hardwoods	--	--	--	--	694	--	--	--	758	483	--
Total	45,246	--	53,711	16,855	6,961	23,743	34,007	33,071	32,868	23,392	25,848
All species	58,351	--	67,333	18,426	6,961	23,905	43,746	33,071	35,124	23,392	25,848

Table 27.--Net volume of sawtimber on commercial forest land by species group and county, Southeast Unit, Wisconsin, 1983

(In thousand board feet)[1/]

Species group	All counties	County											
		Brown	Calumet	Columbia	Dane	Dodge	Door	Fond du Lac	Green	Green Lake	Jefferson	Kenosha	Kewaunee
Softwoods													
Jack pine	3,561	--	--	--	3,561	--	--	--	--	--	--	--	--
Red pine	41,833	--	--	--	--	--	--	22,048	--	--	1,400	--	--
White pine	57,630	--	--	2,872	--	--	5,464	--	8,339	--	--	1,918	2,174
White spruce	11,350	--	--	--	--	--	7,522	--	1,249	--	--	--	--
Black spruce	--	--	--	--	--	--	--	--	--	--	--	--	--
Balsam fir	2,000	--	--	--	--	--	2,000	--	--	--	--	--	--
Hemlock	5,006	874	--	--	--	--	1,153	--	--	--	--	--	2,434
Tamarack	23,041	--	--	1,353	5,007	--	--	3,781	--	--	--	--	7,070
Eastern redcedar	1,734	--	--	--	1,734	--	--	--	--	--	--	--	--
Northern white-cedar	179,244	--	11,998	--	--	--	84,090	--	--	--	--	--	36,600
Other softwoods	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	325,399	874	11,998	4,225	10,302	--	100,229	25,829	9,588	--	1,400	1,918	48,278
Hardwoods													
White oak	489,711	6,441	--	82,806	119,540	10,316	--	15,611	23,783	9,233	36,309	9,516	--
Select red oak	337,065	19,319	2,212	47,765	35,877	5,911	1,704	11,689	21,808	16,739	29,746	5,042	1,575
Other red oak	181,417	--	--	72,432	62,770	--	--	10,988	1,946	6,107	1,160	377	--
Select hickory	96,411	--	2,106	2,450	8,027	--	--	6,401	2,775	8,372	15,654	3,373	--
Other hickory	12,407	--	--	--	2,356	9,587	--	--	--	--	--	464	--
Basswood	96,363	15,760	10,479	16,739	--	2,693	4,881	3,481	1,334	--	12,049	--	7,206
Beech	53,080	4,389	1,185	--	--	--	4,363	10,233	--	--	--	--	1,058
Yellow birch	9,302	1,248	726	--	--	--	1,023	--	--	--	--	--	3,234
Hard maple	242,902	25,655	4,250	--	--	1,824	54,366	10,218	10,717	--	28,112	--	20,067
Soft maple	180,078	38,561	3,334	1,452	6,545	6,990	11,645	2,427	--	--	--	--	25,616
Elm	109,250	12,940	3,495	696	3,291	3,094	10,917	11,083	20,906	--	3,053	473	2,640
Black ash	49,617	--	--	--	--	1,691	1,776	2,343	4,084	--	--	--	2,694
White & green ash	215,431	26,314	9,154	3,375	--	12,403	34,207	6,667	--	--	13,117	3,256	10,276
Cottonwood	15,931	--	--	1,239	1,001	--	--	3,306	6,738	--	--	--	--
Willow	46,317	1,591	--	--	--	--	942	7,092	--	--	--	--	8,783
Hackberry	3,841	--	--	2,009	--	--	--	--	--	--	1,832	--	--
Balsam poplar	11,434	--	--	--	--	--	9,654	--	--	--	--	--	--
Bigtooth aspen	61,791	7,028	--	9,415	10,590	3,178	15,047	--	--	--	--	--	1,225
Quaking aspen	60,688	1,579	--	2,716	12,336	1,684	10,182	1,066	--	--	--	--	--
Paper birch	26,361	--	1,877	--	--	--	6,720	791	--	--	--	--	3,030
River birch	--	--	--	--	--	--	--	--	--	--	--	--	--
Black cherry	110,756	--	--	11,902	33,615	1,272	12,806	9,048	6,716	4,800	3,956	--	--
Black walnut	23,844	--	--	--	11,314	--	--	1,172	7,056	--	--	430	--
Butternut	6,018	1,260	--	--	--	--	--	--	1,189	--	--	--	2,224
Other hardwoods	9,032	--	801	--	5,224	--	--	--	--	--	--	--	--
Total	2,449,047	162,085	39,619	254,996	312,486	60,643	180,233	113,616	109,052	45,251	144,988	22,931	89,628
All species	2,774,446	162,959	51,617	259,221	322,788	60,643	280,462	139,445	118,640	45,251	146,388	24,849	137,906

(Table 27 continued on next page)

[1/] International 1/4-inch rule.

(Table 27 continued)

Species group	County										
	Manitowoc	Milwaukee	Outagamie	Ozaukee	Racine	Rock	Sheboygan	Walworth	Washington	Waukesha	Winnebago
Softwoods											
Jack pine	--	--	--	--	--	--	--	--	--	--	--
Red pine	--	--	17,447	--	--	938	--	--	--	--	--
White pine	20,400	--	15,987	--	--	--	476	--	--	--	--
White spruce	--	--	--	--	--	--	2,579	--	--	--	--
Black spruce	--	--	--	--	--	--	--	--	--	--	--
Balsam fir	--	--	--	--	--	--	--	--	--	--	--
Hemlock	545	--	--	--	--	--	--	--	--	--	--
Tamarack	1,110	--	1,712	--	--	--	1,395	--	1,613	--	--
Eastern redcedar	--	--	--	--	--	--	--	--	--	--	--
Northern white-cedar	13,563	--	11,483	4,281	--	--	12,047	--	5,182	--	--
Other softwoods	--	--	--	--	--	--	--	--	--	--	--
Total	35,618	--	46,629	4,281	--	938	16,497	--	6,795	--	--
Hardwoods											
White oak	3,924	--	10,029	6,157	9,270	31,390	5,863	68,995	6,724	30,013	3,791
Select red oak	15,877	--	3,992	--	2,501	4,695	28,191	24,630	8,235	34,612	14,945
Other red oak	--	--	--	--	3,149	16,223	997	4,029	--	1,239	--
Select hickory	--	--	--	--	2,101	8,439	1,068	22,434	3,181	3,775	6,255
Other hickory	--	--	--	--	--	--	--	--	--	--	--
Basswood	1,492	--	2,293	1,941	--	--	3,206	--	9,711	--	3,098
Beech	5,971	--	12,071	12,667	--	--	1,143	--	--	--	--
Yellow birch	--	--	--	--	--	--	1,890	--	1,181	--	--
Hard maple	35,514	--	3,846	--	2,267	--	23,623	--	19,838	--	2,605
Soft maple	37,810	--	19,576	--	--	--	5,886	--	17,880	2,356	--
Elm	8,406	--	15,347	1,788	--	1,166	5,193	--	3,530	1,232	--
Black ash	2,657	--	15,514	3,408	--	--	3,253	--	1,638	10,559	--
White & green ash	19,825	--	10,201	18,422	1,168	1,508	8,760	--	10,451	--	26,327
Cottonwood	2,859	--	--	--	--	788	--	--	--	--	--
Willow	2,253	--	21,278	--	--	4,378	--	--	--	--	--
Hackberry	--	--	--	--	--	--	--	--	--	--	--
Balsam poplar	1,780	--	--	--	--	--	--	--	--	--	--
Bigtooth aspen	2,427	--	7,417	--	--	--	1,049	--	--	--	4,415
Quaking aspen	7,747	--	8,015	--	--	--	2,085	1,686	4,164	1,960	5,468
Paper birch	1,140	--	7,716	4,099	--	--	988	--	--	--	--
River birch	--	--	--	--	--	--	--	--	--	--	--
Black cherry	1,502	--	1,766	--	--	7,263	--	8,253	1,411	6,446	--
Black walnut	--	--	--	--	--	1,683	--	2,189	--	--	--
Butternut	--	--	--	--	--	--	--	--	1,345	--	--
Other hardwoods	--	--	--	--	--	--	--	--	1,156	1,851	--
Total	151,184	--	139,061	48,482	20,456	77,533	93,195	132,216	90,445	94,043	66,904
All species	186,802	--	185,690	52,763	20,456	78,471	109,692	132,216	97,240	94,043	66,904

Table 28.--Net volume of growing stock on commercial forest land by species group and diameter class, Southeast Unit, Wisconsin, 1983

(In thousand cubic feet)

Species group	All classes	Diameter class (inches at breast height) 5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0-28.9	29.0-38.9	39.0+
Softwoods													
Jack pine	2,629	1,647	292	453	237	--	--	--	--	--	--	--	--
Red pine	19,687	7,050	5,320	5,466	1,227	624	--	--	--	--	--	--	--
White pine	16,386	2,380	2,770	1,060	2,046	2,705	1,945	1,019	1,290	445	726	--	--
White spruce	4,425	1,129	915	1,091	562	503	--	--	--	--	225	--	--
Black spruce	827	448	379	--	--	--	--	--	--	--	--	--	--
Balsam fir	1,989	891	645	181	272	--	--	--	--	--	--	--	--
Hemlock	2,506	647	606	558	409	131	--	155	--	--	--	--	--
Tamarack	10,043	1,333	4,407	602	2,371	169	171	810	180	--	--	--	--
Eastern redcedar	2,089	1,451	344	--	--	--	294	--	--	--	--	--	--
Northern white-cedar	75,064	18,228	21,119	16,751	9,434	6,603	2,143	786	--	--	--	--	--
Other softwoods	341	101	240	--	--	--	--	--	--	--	--	--	--
Total	135,986	35,305	37,037	26,162	16,558	10,735	4,553	2,770	1,470	445	951	--	--
Hardwoods													
White oak	109,832	2,240	3,639	6,497	9,530	14,424	12,578	15,012	12,720	11,393	13,629	6,132	2,038
Select red oak	76,541	596	3,989	4,173	5,518	8,336	8,638	11,414	8,006	8,707	12,662	4,099	403
Other red oak	49,150	2,725	3,735	4,672	5,133	7,465	7,414	5,376	4,592	4,597	2,693	748	--
Select hickory	34,079	3,037	5,656	7,033	7,920	3,669	2,861	2,650	879	--	374	--	--
Other hickory	8,197	3,630	1,315	839	1,192	318	903	--	--	--	--	--	--
Basswood	27,278	1,455	2,293	4,018	2,796	4,603	1,803	2,663	1,792	1,536	2,438	1,881	--
Beech	12,848	617	738	1,406	2,782	1,665	460	2,829	484	1,435	432	--	--
Yellow birch	6,990	1,574	1,014	2,322	948	426	510	196	--	--	--	--	--
Hard maple	68,998	7,685	6,576	7,086	12,204	5,519	6,575	4,081	5,484	4,179	6,990	2,619	--
Soft maple	54,651	7,203	4,020	6,628	6,623	6,655	7,196	5,335	2,888	3,344	2,219	2,278	262
Elm	43,684	3,508	7,411	8,131	6,486	5,317	4,542	1,900	2,751	195	2,074	1,097	272
Black ash	41,553	13,686	13,035	6,599	4,651	1,448	1,859	275	--	--	--	--	--
White & green ash	72,123	5,622	11,613	14,274	13,340	8,769	6,323	3,545	2,750	637	3,790	1,460	--
Cottonwood	4,426	--	233	701	388	226	--	220	231	--	246	1,067	1,114
Willow	12,161	394	484	260	1,485	815	2,537	2,882	1,367	686	1,251	--	--
Hackberry	843	--	--	--	215	240	--	--	--	--	388	--	--
Balsam poplar	3,286	--	--	807	--	838	849	--	392	400	--	--	--
Bigtooth aspen	19,159	1,172	1,149	3,323	7,784	3,794	1,397	309	--	--	--	231	--
Quaking aspen	46,395	14,594	10,097	9,606	5,738	3,009	2,159	841	351	--	--	--	--
Paper birch	23,223	3,846	8,206	6,040	2,674	1,391	1,066	--	--	--	--	--	--
River birch	--	--	--	--	--	--	--	--	--	--	--	--	--
Black cherry	38,345	7,165	5,060	5,660	6,290	6,056	3,137	2,335	1,485	336	821	--	--
Black walnut	6,156	1,315	325	159	442	1,256	546	1,944	169	--	--	--	--
Butternut	2,633	--	623	925	179	181	247	--	243	235	--	--	--
Other hardwoods	9,646	4,472	1,739	1,800	570	637	221	207	--	--	--	--	--
Total	772,197	86,536	92,950	102,959	104,888	87,057	73,821	64,014	46,584	37,680	50,007	21,612	4,089
All species	908,183	121,841	129,987	129,121	121,446	97,792	78,374	66,784	48,054	38,125	50,958	21,612	4,089

Table 29.--Net volume of sawtimber on commercial forest land by species group and diameter class, Southeast Unit, Wisconsin, 1983

(In thousand board feet)[1/]

Species group	All classes	Diameter class (inches at breast height) 9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0-28.9	29.0-38.9	39.0+
Softwoods											
Jack pine	3,561	2,338	1,223	--	--	--	--	--	--	--	--
Red pine	41,833	31,345	6,945	3,543	--	--	--	--	--	--	--
White pine	57,630	4,150	9,564	13,696	10,361	5,642	7,331	2,596	4,290	--	--
White spruce	11,350	4,888	2,686	2,527	--	--	--	--	1,249	--	--
Black spruce	--	--	--	--	--	--	--	--	--	--	--
Balsam fir	2,000	711	1,289	--	--	--	--	--	--	--	--
Hemlock	5,006	2,030	1,681	574	--	721	--	--	--	--	--
Tamarack	23,041	3,107	12,533	925	950	4,507	1,019	--	--	--	--
Eastern redcedar	1,734	--	--	--	1,734	--	--	--	--	--	--
Northern white-cedar	179,244	81,138	47,727	34,598	11,506	4,275	--	--	--	--	--
Other softwoods	--	--	--	--	--	--	--	--	--	--	--
Total	325,399	129,707	83,648	55,863	24,551	15,145	8,350	2,596	5,539	--	--
Hardwoods											
White oak	489,711	--	52,871	75,488	63,425	74,086	62,204	55,268	66,261	30,063	10,045
Select red oak	337,065	--	26,536	40,582	41,901	56,224	39,919	43,771	64,694	21,310	2,128
Other red oak	181,417	--	24,060	35,164	34,906	25,599	22,181	22,397	13,314	3,796	--
Select hickory	96,411	--	44,200	19,104	14,409	12,645	4,258	--	1,795	--	--
Other hickory	12,407	--	6,403	1,592	4,412	--	--	--	--	--	--
Basswood	96,363	--	13,559	22,119	8,736	13,097	8,903	7,669	12,489	9,791	--
Beech	53,080	--	15,018	9,064	2,446	14,580	2,481	7,257	2,234	--	--
Yellow birch	9,302	--	3,911	1,898	2,478	1,015	--	--	--	--	--
Hard maple	242,902	--	58,723	27,157	32,964	20,906	28,691	22,023	37,874	14,564	--
Soft maple	180,078	--	35,815	33,612	34,877	24,880	13,402	15,561	10,222	10,487	1,222
Elm	109,250	--	27,856	22,894	19,977	8,452	12,585	922	9,868	5,328	1,368
Black ash	49,617	--	29,603	8,465	10,130	1,419	--	--	--	--	--
White & green ash	215,431	--	78,311	47,118	32,168	17,368	13,259	2,971	17,508	6,728	--
Cottonwood	15,931	--	1,583	920	--	939	1,001	--	1,125	5,011	5,352
Willow	46,317	--	5,973	3,250	10,448	12,131	5,912	2,978	5,625	--	--
Hackberry	3,841	--	943	1,066	--	--	--	--	1,832	--	--
Balsam poplar	11,434	--	--	3,649	3,973	--	1,855	1,957	--	--	--
Bigtooth aspen	61,791	--	34,773	17,611	6,696	1,486	--	--	--	1,225	--
Quaking aspen	60,688	--	27,567	15,210	11,414	4,564	1,933	--	--	--	--
Paper birch	26,361	--	13,418	7,223	5,720	--	--	--	--	--	--
River birch	--	--	--	--	--	--	--	--	--	--	--
Black cherry	110,756	--	36,927	32,565	16,247	11,894	7,415	1,622	4,086	--	--
Black walnut	23,844	--	2,762	7,188	2,801	10,182	911	--	--	--	--
Butternut	6,018	--	1,139	1,085	1,260	--	1,345	1,189	--	--	--
Other hardwoods	9,032	--	3,148	3,493	1,235	1,156	--	--	--	--	--
Total	2,449,047	--	545,099	437,517	362,623	312,623	228,255	185,585	248,927	108,303	20,115
All species	2,774,446	129,707	628,747	493,380	387,174	327,768	236,605	188,181	254,466	108,303	20,115

[1/] International 1/4-inch rule.

Table 30.--Net volume of growing stock on commercial forest land by species group and forest type, Southeast Unit, Wisconsin, 1983

(In thousand cubic feet)

Species group	All types	Forest type							
		Jack pine	Red pine	White pine	Balsam fir	White spruce	Black spruce	Northern white-cedar	Tamarack
Softwoods									
Jack pine	2,629	1,672	--	--	--	--	--	--	--
Red pine	19,687	--	15,664	3,575	--	286	--	--	--
White pine	16,386	250	--	9,142	--	--	--	1,191	50
White spruce	4,425	--	--	225	--	1,977	--	753	--
Black spruce	827	--	--	--	--	--	600	227	--
Balsam fir	1,989	--	--	--	--	--	--	1,400	--
Hemlock	2,506	--	--	--	--	--	--	402	--
Tamarack	10,043	--	--	--	--	--	--	3,582	4,015
Eastern redcedar	2,089	--	--	--	--	--	--	--	--
Northern white-cedar	75,064	--	--	--	--	--	--	47,728	--
Other softwoods	341	--	--	341	--	--	--	--	--
Total	135,986	1,922	15,664	13,283	--	2,263	600	55,283	4,065
Hardwoods									
White oak	109,832	--	--	--	--	--	--	184	--
Select red oak	76,541	--	--	--	--	--	--	--	--
Other red oak	49,150	--	412	--	--	--	--	--	--
Select hickory	34,079	--	--	--	--	--	--	197	--
Other hickory	8,197	--	--	--	--	--	--	146	--
Basswood	27,278	--	--	--	--	--	--	919	--
Beech	12,848	--	--	--	--	--	--	--	--
Yellow birch	6,990	--	--	--	--	--	--	1,389	--
Hard maple	68,998	--	--	--	--	--	--	248	--
Soft maple	54,651	328	--	--	--	--	--	1,001	--
Elm	43,684	--	--	388	--	--	--	766	511
Black ash	41,553	--	--	--	--	--	--	1,452	483
White & green ash	72,123	--	--	--	--	301	--	173	--
Cottonwood	4,426	--	--	--	--	--	--	--	--
Willow	12,161	--	--	--	--	--	--	438	--
Hackberry	843	--	--	--	--	--	--	--	--
Balsam poplar	3,286	--	--	--	--	--	--	--	--
Bigtooth aspen	19,159	--	--	256	--	--	--	--	--
Quaking aspen	46,395	--	--	--	--	--	351	4,213	--
Paper birch	23,223	--	--	--	--	--	--	4,043	205
River birch	--	--	--	--	--	--	--	--	--
Black cherry	38,345	--	--	294	--	--	--	--	--
Black walnut	6,156	--	--	--	--	--	--	--	--
Butternut	2,633	--	--	--	--	--	--	--	--
Other hardwoods	9,646	--	--	--	--	--	--	--	--
Total	772,197	328	412	938	--	301	351	15,169	1,199
All species	908,183	2,250	16,076	14,221	--	2,564	951	70,452	5,264

(Table 30 continued on next page)

(Table 30 continued)

Species group	Forest type						
	Oak-hickory	Elm-ash-soft maple	Maple-birch	Aspen	Paper birch	Exotic	Non-stocked
Softwoods							
Jack pine	957	--	--	--	--	--	--
Red pine	162	--	--	--	--	--	--
White pine	1,092	215	4,332	--	--	--	114
White spruce	445	1,025	--	--	--	--	--
Black spruce	--	--	--	--	--	--	--
Balsam fir	--	--	--	589	--	--	--
Hemlock	--	1,392	419	293	--	--	--
Tamarack	--	1,638	--	456	352	--	--
Eastern redcedar	812	1,277	--	--	--	--	--
Northern white-cedar	--	15,553	8,689	1,875	1,219	--	--
Other softwoods	--	--	--	--	--	--	--
Total	3,468	21,100	13,440	3,213	1,571	--	114
Hardwoods							
White oak	93,636	2,887	11,765	1,360	--	--	--
Select red oak	60,865	1,605	14,071	--	--	--	--
Other red oak	43,709	337	1,665	3,027	--	--	--
Select hickory	26,084	--	7,465	333	--	--	--
Other hickory	5,803	--	2,248	--	--	--	--
Basswood	2,454	2,082	21,823	--	--	--	--
Beech	--	--	12,848	--	--	--	--
Yellow birch	--	3,360	2,241	--	--	--	--
Hard maple	4,276	672	63,191	611	--	--	--
Soft maple	2,013	37,039	13,542	728	--	--	--
Elm	3,942	14,052	22,212	756	791	--	266
Black ash	1,071	31,844	5,752	951	--	--	--
White & green ash	5,009	30,320	35,185	707	428	--	--
Cottonwood	810	3,293	--	323	--	--	--
Willow	--	9,151	2,480	92	--	--	--
Hackberry	843	--	--	--	--	--	--
Balsam poplar	--	1,027	1,182	1,077	--	--	--
Bigtooth aspen	7,763	1,161	8,339	1,640	--	--	--
Quaking aspen	5,526	6,556	5,238	24,348	163	--	--
Paper birch	1,287	6,370	5,309	2,571	3,438	--	--
River birch	--	--	--	--	--	--	--
Black cherry	19,798	--	14,791	3,462	--	--	--
Black walnut	5,652	--	504	--	--	--	--
Butternut	450	243	1,940	--	--	--	--
Other hardwoods	886	2,515	6,245	--	--	--	--
Total	291,877	154,514	260,036	41,986	4,820	--	266
All species	295,345	175,614	273,476	45,199	6,391	--	380

Table 31.--Net volume of sawtimber on commercial forest land by species group and forest type, Southeast Unit, Wisconsin, 1983

(In thousand board feet)[1/]

Species group	All types	Forest type							
		Jack pine	Red pine	White pine	Balsam fir	White spruce	Black spruce	Northern white-cedar	Tamarack
Softwoods									
Jack pine	3,561	--	--	--	--	--	--	--	--
Red pine	41,833	--	23,448	17,447	--	--	--	--	--
White pine	57,630	--	--	25,033	--	--	--	4,895	--
White spruce	11,350	--	--	1,249	--	2,579	--	2,863	--
Black spruce	--	--	--	--	--	--	--	--	--
Balsam fir	2,000	--	--	--	--	--	--	1,289	--
Hemlock	5,006	--	--	--	--	--	--	1,627	--
Tamarack	23,041	--	--	--	--	--	--	9,575	4,627
Eastern redcedar	1,734	--	--	--	--	--	--	--	--
Northern white-cedar	179,244	--	--	--	--	--	--	95,003	--
Other softwoods	--	--	--	--	--	--	--	--	--
Total	325,399	--	23,448	43,729	--	2,579	--	115,252	4,627
Hardwoods									
White oak	489,711	--	--	--	--	--	--	1,004	--
Select red oak	337,065	--	--	--	--	--	--	--	--
Other red oak	181,417	--	1,898	--	--	--	--	--	--
Select hickory	96,411	--	--	--	--	--	--	1,146	--
Other hickory	12,407	--	--	--	--	--	--	--	--
Basswood	96,363	--	--	--	--	--	--	3,717	--
Beech	53,080	--	--	--	--	--	--	--	--
Yellow birch	9,302	--	--	--	--	--	--	--	--
Hard maple	242,902	--	--	--	--	--	--	1,330	--
Soft maple	180,078	--	--	--	--	--	--	4,274	--
Elm	109,250	--	--	1,088	--	--	--	1,677	1,838
Black ash	49,617	--	--	--	--	--	--	--	--
White & green ash	215,431	--	--	--	--	--	--	878	--
Cottonwood	15,931	--	--	--	--	--	--	--	--
Willow	46,317	--	--	--	--	--	--	1,896	--
Hackberry	3,841	--	--	--	--	--	--	--	--
Balsam poplar	11,434	--	--	--	--	--	--	--	--
Bigtooth aspen	61,791	--	--	--	--	--	--	--	--
Quaking aspen	60,688	--	--	--	--	--	--	7,791	--
Paper birch	26,361	--	--	--	--	--	--	4,108	--
River birch	--	--	--	--	--	--	--	--	--
Black cherry	110,756	--	--	--	--	--	--	--	--
Black walnut	23,844	--	--	--	--	--	--	--	--
Butternut	6,018	--	--	--	--	--	--	--	--
Other hardwoods	9,032	--	--	--	--	--	--	--	--
Total	2,449,047	--	1,898	1,088	--	--	--	27,821	1,838
All species	2,774,446	--	25,346	44,817	--	2,579	--	143,073	6,465

[1/] International 1/4-inch rule.

(Table 31 continued on next page)

(Table 31 continued)

Species group	Forest type						
	Oak-hickory	Elm-ash-soft maple	Maple-birch	Aspen	Paper birch	Exotic	Non-stocked
Softwoods							
Jack pine	3,561	--	--	--	--	--	--
Red pine	938	--	--	--	--	--	--
White pine	6,150	1,054	19,929	--	--	--	569
White spruce	--	4,659	--	--	--	--	--
Black spruce	--	--	--	--	--	--	--
Balsam fir	--	--	--	711	--	--	--
Hemlock	--	1,381	1,453	545	--	--	--
Tamarack	--	8,839	--	--	--	--	--
Eastern redcedar	1,734	--	--	--	--	--	--
Northern white-ced	--	44,943	30,426	4,591	4,281	--	--
Other softwoods	--	--	--	--	--	--	--
Total	12,383	60,876	51,808	5,847	4,281	--	569
Hardwoods							
White oak	412,350	14,500	56,148	5,709	--	--	--
Select red oak	274,178	6,453	56,434	--	--	--	--
Other red oak	162,425	--	5,463	11,631	--	--	--
Select hickory	70,314	--	24,951	--	--	--	--
Other hickory	12,407	--	--	--	--	--	--
Basswood	6,675	6,312	79,659	--	--	--	--
Beech	--	--	53,080	--	--	--	--
Yellow birch	--	6,572	2,730	--	--	--	--
Hard maple	10,567	2,513	225,527	2,965	--	--	--
Soft maple	8,357	118,707	46,581	2,159	--	--	--
Elm	11,665	37,088	51,388	1,416	1,788	--	1,302
Black ash	--	46,700	2,917	--	--	--	--
White & green ash	19,608	88,327	100,933	3,074	2,611	--	--
Cottonwood	1,239	13,691	--	1,001	--	--	--
Willow	--	34,128	10,293	--	--	--	--
Hackberry	3,841	--	--	--	--	--	--
Balsam poplar	--	1,917	5,592	3,925	--	--	--
Bigtooth aspen	23,865	5,379	26,936	5,611	--	--	--
Quaking aspen	3,703	10,400	9,954	28,840	--	--	--
Paper birch	988	12,006	5,160	--	4,099	--	--
River birch	--	--	--	--	--	--	--
Black cherry	59,214	--	42,918	8,624	--	--	--
Black walnut	20,989	--	2,855	--	--	--	--
Butternut	1,189	1,345	3,484	--	--	--	--
Other hardwoods	1,753	3,884	3,395	--	--	--	--
Total	1,105,327	409,922	816,398	74,955	8,498	--	1,302
All species	1,117,710	470,798	868,206	80,802	12,779	--	1,871

Table 32.--Net volume of growing stock on commercial forest land by species group and ownership class, Southeast Unit, Wisconsin, 1983

(In thousand cubic feet)

Species group	All owners	Ownership class								
		National Forest	Misc. federal	State	County & municipal	Indian	Forest industry	Farmer	Misc. priv.-corp.	Misc. priv.-indiv.
Softwoods										
Jack pine	2,629	--	--	--	--	--	--	2,362	--	267
Red pine	19,687	--	--	7,065	--	--	--	3,575	1,999	7,048
White pine	16,386	--	--	1,156	--	--	--	11,513	347	3,370
White spruce	4,425	--	--	598	--	--	445	1,250	--	2,132
Black spruce	827	--	--	--	--	--	--	600	--	227
Balsam fir	1,989	--	--	504	--	--	--	--	181	1,304
Hemlock	2,506	--	--	--	--	--	--	1,910	386	210
Tamarack	10,043	--	--	685	750	--	488	3,957	2,098	2,065
Eastern redcedar	2,089	--	--	--	--	--	--	1,328	--	761
Northern white-cedar	75,064	--	--	2,336	--	--	3,333	32,198	4,354	32,843
Other softwoods	341	--	--	341	--	--	--	--	--	--
Total	135,986	--	--	12,685	750	--	4,266	58,693	9,365	50,227
Hardwoods										
White oak	109,832	--	--	6,939	239	--	--	55,391	6,887	40,376
Select red oak	76,541	--	--	4,436	1,689	--	--	44,589	1,160	24,667
Other red oak	49,150	--	--	1,855	--	--	--	23,294	1,173	22,828
Select hickory	34,079	--	--	962	--	--	332	17,250	4,323	11,212
Other hickory	8,197	--	--	--	--	--	--	7,228	--	969
Basswood	27,278	--	--	--	--	--	--	16,391	791	10,096
Beech	12,848	--	--	--	--	--	--	8,177	1,975	2,696
Yellow birch	6,990	--	--	--	--	--	414	3,451	1,389	1,736
Hard maple	68,998	--	--	874	321	--	--	39,484	2,699	25,620
Soft maple	54,651	--	--	11,432	8,187	--	3,266	20,520	1,604	9,642
Elm	43,684	--	--	1,207	1,573	--	1,417	23,894	1,428	14,165
Black ash	41,553	--	--	5,122	710	--	1,542	16,163	2,911	15,105
White & green ash	72,123	--	--	1,652	1,144	--	2,745	43,665	3,422	19,495
Cottonwood	4,426	--	730	297	1,408	--	269	--	772	950
Willow	12,161	--	1,677	1,419	374	--	616	4,282	2,915	878
Hackberry	843	--	--	--	--	--	--	--	--	843
Balsam poplar	3,286	--	--	390	--	--	--	2,013	256	627
Bigtooth aspen	19,159	--	--	335	930	--	--	10,991	--	6,903
Quaking aspen	46,395	--	1,595	9,014	762	--	486	16,034	4,667	13,837
Paper birch	23,223	--	436	1,115	891	--	1,797	6,694	1,092	11,198
River birch	--	--	--	--	--	--	--	--	--	--
Black cherry	38,345	--	--	1,720	--	--	392	16,258	4,169	15,806
Black walnut	6,156	--	--	--	--	--	--	3,716	--	2,440
Butternut	2,633	--	--	--	--	--	--	1,489	447	697
Other hardwoods	9,646	--	143	483	--	--	--	4,804	--	4,216
Total	772,197	--	4,581	49,252	18,228	--	13,276	385,778	44,080	257,002
All species	908,183	--	4,581	61,937	18,978	--	17,542	444,471	53,445	307,229

Table 33.--Net volume of sawtimber on commercial forest land by species group and ownership class, Southeast Unit, Wisconsin, 1983

(In thousand board feet)[1/]

Species group	All owners	Ownership class								
		National Forest	Misc. federal	State	County & municipal	Indian	Forest industry	Farmer	Misc. priv.-corp.	Misc. priv.-indiv.
Softwoods										
Jack pine	3,561	--	--	--	--	--	--	3,561	--	--
Red pine	41,833	--	--	22,986	--	--	--	17,447	--	1,400
White pine	57,630	--	--	4,085	--	--	--	46,494	1,687	5,364
White spruce	11,350	--	--	2,863	--	--	--	5,908	--	2,579
Black spruce	--	--	--	--	--	--	--	--	--	--
Balsam fir	2,000	--	--	--	--	--	--	--	711	1,289
Hemlock	5,006	--	--	--	--	--	--	3,379	906	721
Tamarack	23,041	--	--	3,781	--	--	--	8,015	7,916	3,329
Eastern redcedar	1,734	--	--	--	--	--	--	1,734	--	--
Northern white-cedar	179,244	--	--	10,847	--	--	3,876	61,344	8,138	95,039
Other softwoods	--	--	--	--	--	--	--	--	--	--
Total	325,399	--	--	44,562	--	--	3,876	147,882	19,358	109,721
Hardwoods										
White oak	489,711	--	--	34,890	1,179	--	--	244,834	30,427	178,381
Select red oak	337,065	--	--	19,127	6,808	--	--	205,435	5,922	99,773
Other red oak	181,417	--	--	3,853	--	--	--	87,886	5,672	84,006
Select hickory	96,411	--	--	2,279	--	--	--	50,197	10,955	32,980
Other hickory	12,407	--	--	--	--	--	--	11,943	--	464
Basswood	96,363	--	--	--	--	--	--	53,411	3,908	39,044
Beech	53,080	--	--	--	--	--	--	35,667	10,747	6,666
Yellow birch	9,302	--	--	--	--	--	1,023	4,907	--	3,372
Hard maple	242,902	--	--	1,079	--	--	--	135,082	13,673	93,068
Soft maple	180,078	--	--	43,713	21,469	--	9,595	77,446	3,824	24,031
Elm	109,250	--	--	1,232	6,661	--	3,465	61,243	5,045	31,604
Black ash	49,617	--	--	10,559	1,838	--	3,626	11,811	3,408	18,375
White & green ash	215,431	--	--	5,416	3,985	--	13,968	117,085	10,363	64,614
Cottonwood	15,931	--	3,306	788	6,738	--	1,239	--	1,001	2,859
Willow	46,317	--	7,092	4,378	1,591	--	2,570	18,152	8,641	3,893
Hackberry	3,841	--	--	--	--	--	--	--	--	3,841
Balsam poplar	11,434	--	--	1,780	--	--	--	5,729	1,212	2,713
Bigtooth aspen	61,791	--	--	1,049	4,154	--	--	34,293	--	22,295
Quaking aspen	60,688	--	1,579	4,590	--	--	1,519	23,922	9,358	19,720
Paper birch	26,361	--	--	988	--	--	6,892	8,081	1,140	9,260
River birch	--	--	--	--	--	--	--	--	--	--
Black cherry	110,756	--	--	2,159	--	--	1,049	49,382	15,398	42,768
Black walnut	23,844	--	--	--	--	--	--	10,341	--	13,503
Butternut	6,018	--	--	--	--	--	--	3,569	--	2,449
Other hardwoods	9,032	--	--	1,851	--	--	--	4,666	--	2,515
Total	2,449,047	--	11,977	139,731	54,423	--	44,946	1,255,082	140,694	802,194
All species	2,774,446	--	11,977	184,293	54,423	--	48,822	1,402,964	160,052	911,915

[1/] International 1/4-inch rule.

Table 34.--Net volume of growing stock on commercial forest land by forest type and stand-age class, Southeast Unit, Wisconsin, 1983

(In thousand cubic feet)

Forest type	All ages	Stand-age class (years)												
		1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-140	141+
Jack pine	2,250	--	--	--	2,250	--	--	--	--	--	--	--	--	--
Red pine	16,076	--	9,173	--	6,903	--	--	--	--	--	--	--	--	--
White pine	14,221	--	1,528	2,358	--	8,640	--	--	--	1,695	--	--	--	--
Balsam fir	--	--	--	--	--	--	--	--	--	--	--	--	--	--
White spruce	2,564	--	--	--	2,564	--	--	--	--	--	--	--	--	--
Black spruce	951	--	951	--	--	--	--	--	--	--	--	--	--	--
Northern white-cedar	70,452	946	5,122	--	3,610	10,547	6,461	3,859	3,753	3,729	15,256	10,721	6,448	--
Tamarack	5,264	--	365	--	2,563	1,168	--	1,168	--	--	--	--	--	--
Oak-hickory	295,345	1,678	2,293	4,761	7,367	14,126	25,905	13,593	34,811	30,530	45,846	35,289	38,981	40,165
Elm-ash-soft maple	175,614	6,047	8,774	23,437	23,468	20,872	16,413	20,395	27,655	11,576	6,661	5,623	4,693	--
Maple-birch	273,476	7,387	14,174	16,216	22,054	10,950	40,849	48,313	31,305	20,586	29,063	15,933	12,623	4,023
Aspen	45,199	2,539	6,185	7,447	13,039	5,078	4,551	2,215	4,145	--	--	--	--	--
Paper birch	6,391	163	--	--	6,228	--	--	--	--	--	--	--	--	--
Exotic	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nonstocked	380	380	--	--	--	--	--	--	--	--	--	--	--	--
All types	908,183	19,140	48,565	54,219	90,046	71,381	94,179	89,543	101,669	68,116	96,826	67,566	62,745	44,188

Table 35.--Net volume of sawtimber on commercial forest land by forest type and stand-age class, Southeastern Unit, Wisconsin, 1983

(In thousand board feet)[1/]

Forest type	All ages	Stand-age class (years)												
		1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-140	141+
Jack pine	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Red pine	25,346	--	3,298	--	22,048	--	--	--	--	--	--	--	--	--
White pine	44,817	--	--	2,394	--	32,835	--	--	--	9,588	--	--	--	--
Balsam fir	--	--	--	--	--	--	--	--	--	--	--	--	--	--
White spruce	2,579	--	--	--	2,579	--	--	--	--	--	--	--	--	--
Black spruce	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Northern white-cedar	143,073	2,150	--	--	4,183	17,328	15,614	993	2,680	8,304	33,383	37,686	20,752	--
Tamarack	6,465	--	846	--	--	1,838	--	3,781	--	--	--	--	--	--
Oak-hickory	1,117,710	4,492	5,710	5,104	8,465	36,017	83,231	52,281	129,377	102,220	185,377	148,728	174,010	182,698
Elm-ash-soft maple	470,798	16,573	18,744	37,709	34,457	57,578	44,506	54,117	79,527	52,346	32,950	22,343	19,948	--
Maple-birch	868,206	12,044	47,270	34,099	31,907	27,901	107,377	168,681	121,609	79,455	104,152	64,640	53,017	16,054
Aspen	80,802	3,773	10,155	10,233	9,430	13,829	19,330	5,111	8,941	--	--	--	--	--
Paper birch	12,779	--	--	--	12,779	--	--	--	--	--	--	--	--	--
Exotic	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nonstocked	1,871	1,871	--	--	--	--	--	--	--	--	--	--	--	--
All types	2,774,446	40,903	86,023	89,539	125,848	187,326	270,058	284,964	342,134	251,913	355,862	273,397	267,727	198,752

[1/] International 1/4-inch rule.

Table 36.--Net volume of growing stock on commercial forest land by forest type, stand-size class, and basal-area class, Southeast Unit, Wisconsin, 1983

(In thousand cubic feet)

Forest type and stand-size class	All classes	Basal-area class (square feet per acre) 0-10	11-20	21-30	31-40	41-50	51-60	61-70
Jack pine								
Sawtimber	--	--	--	--	--	--	--	--
Poletimber	2,250	--	--	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--	--
All stands	2,250	--	--	--	--	--	--	--
Red pine								
Sawtimber	6,903	--	--	--	--	--	--	--
Poletimber	6,986	--	--	--	--	--	--	1,999
Sapling & seedling	2,187	--	--	--	--	--	--	--
All stands	16,076	--	--	--	--	--	--	1,999
White pine								
Sawtimber	8,539	--	--	--	1,695	--	--	--
Poletimber	5,682	--	--	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--	--
All stands	14,221	--	--	--	1,695	--	--	--
Balsam fir								
Sawtimber	--	--	--	--	--	--	--	--
Poletimber	--	--	--	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--	--
All stands	--	--	--	--	--	--	--	--
White spruce								
Sawtimber	--	--	--	--	--	--	--	--
Poletimber	2,564	--	--	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--	--
All stands	2,564	--	--	--	--	--	--	--
Black spruce								
Sawtimber	--	--	--	--	--	--	--	--
Poletimber	--	--	--	--	--	--	--	--
Sapling & seedling	951	--	--	--	--	--	--	951
All stands	951	--	--	--	--	--	--	951
Northern white-cedar								
Sawtimber	36,779	--	--	--	--	2,702	--	--
Poletimber	25,962	--	--	--	--	--	--	--
Sapling & seedling	7,711	--	--	946	--	--	--	--
All stands	70,452	--	--	946	--	2,702	--	--

(Table 36 continued on next page)

(Table 36 continued)

Forest type and stand-size class	Basal-area class (square feet per acre)						
	71-80	81-90	91-100	101-120	121-150	151-180	181+
Jack pine							
Sawtimber	--	--	--	--	--	--	--
Poletimber	--	2,250	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--
All stands	--	2,250	--	--	--	--	--
Red pine							
Sawtimber	--	--	--	--	--	6,903	--
Poletimber	--	4,987	--	--	--	--	--
Sapling & seedling	--	--	--	--	2,187	--	--
All stands	--	4,987	--	--	2,187	6,903	--
White pine							
Sawtimber	--	--	--	--	6,844	--	--
Poletimber	1,084	--	1,796	2,802	--	--	--
Sapling & seedling	--	--	--	--	--	--	--
All stands	1,084	--	1,796	2,802	6,844	--	--
Balsam fir							
Sawtimber	--	--	--	--	--	--	--
Poletimber	--	--	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--
All stands	--	--	--	--	--	--	--
White spruce							
Sawtimber	--	--	--	--	--	--	--
Poletimber	--	--	2,564	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--
All stands	--	--	2,564	--	--	--	--
Black spruce							
Sawtimber	--	--	--	--	--	--	--
Poletimber	--	--	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--
All stands	--	--	--	--	--	--	--
Northern white-cedar							
Sawtimber	1,185	--	--	--	12,508	5,821	14,563
Poletimber	--	1,967	--	2,544	3,859	17,592	--
Sapling & seedling	2,610	1,643	--	2,512	--	--	--
All stands	3,795	3,610	--	5,056	16,367	23,413	14,563

(Table 36 continued on next page)

(Table 36 continued)

Forest type and stand-size class	All classes	Basal-area class (square feet per acre)						
		0-10	11-20	21-30	31-40	41-50	51-60	61-70
Tamarack								
Sawtimber	1,168	--	--	1,168	--	--	--	--
Poletimber	3,731	--	--	--	--	--	1,168	--
Sapling & seedling	365	--	365	--	--	--	--	--
All stands	5,264	--	365	1,168	--	--	1,168	--
Oak-hickory								
Sawtimber	266,246	--	709	918	819	9,725	6,208	14,448
Poletimber	25,128	--	--	--	--	--	1,610	--
Sapling & seedling	3,971	--	177	660	--	596	905	--
All stands	295,345	--	886	1,578	819	10,321	8,723	14,448
Elm-ash-soft maple								
Sawtimber	87,444	--	--	2,292	3,681	2,798	10,570	2,579
Poletimber	75,408	--	1,317	4,914	1,993	2,557	4,732	4,588
Sapling & seedling	12,762	--	557	--	3,286	2,685	--	3,739
All stands	175,614	--	1,874	7,206	8,960	8,040	15,302	10,906
Maple-birch								
Sawtimber	187,009	--	--	--	1,662	5,582	7,138	5,591
Poletimber	65,704	--	--	846	--	3,137	4,711	--
Sapling & seedling	20,763	--	--	--	823	2,902	273	1,545
All stands	273,476	--	--	846	2,485	11,621	12,122	7,136
Aspen								
Sawtimber	14,706	--	--	--	--	--	2,215	--
Poletimber	21,256	--	--	2,454	--	1,283	1,968	--
Sapling & seedling	9,237	--	235	741	472	1,565	--	1,638
All stands	45,199	--	235	3,195	472	2,848	4,183	1,638
Paper birch								
Sawtimber	--	--	--	--	--	--	--	--
Poletimber	6,228	--	--	--	--	--	--	--
Sapling & seedling	163	--	163	--	--	--	--	--
All stands	6,391	--	163	--	--	--	--	--
Exotic								
Sawtimber	--	--	--	--	--	--	--	--
Poletimber	--	--	--	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--	--
All stands	--	--	--	--	--	--	--	--
Nonstocked	380	114	266	--	--	--	--	--
All types								
Sawtimber	608,794	--	709	4,378	7,857	20,807	26,131	22,618
Poletimber	240,899	--	1,317	8,214	1,993	6,977	14,189	6,587
Sapling & seedling	58,110	--	1,497	2,347	4,581	7,748	1,178	7,873
Nonstocked	380	114	266	--	--	--	--	--
All stands	908,183	114	3,789	14,939	14,431	35,532	41,498	37,078

(Table 36 continued on next page)

(Table 36 continued)

Forest type and stand-size class	Basal-area class (square feet per acre)						
	71-80	81-90	91-100	101-120	121-150	151-180	181+
Tamarack							
Sawtimber	--	--	--	--	--	--	--
Poletimber	--	2,563	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--
All stands	--	2,563	--	--	--	--	--
Oak-hickory							
Sawtimber	31,292	41,703	27,213	67,832	36,515	28,864	--
Poletimber	4,428	5,861	4,572	4,550	4,107	--	--
Sapling & seedling	--	--	--	1,633	--	--	--
All stands	35,720	47,564	31,785	74,015	40,622	28,864	--
Elm-ash-soft maple							
Sawtimber	8,084	2,575	16,572	19,125	--	10,433	8,735
Poletimber	1,059	7,663	7,552	12,385	4,598	22,050	--
Sapling & seedling	1,056	1,439	--	--	--	--	--
All stands	10,199	11,677	24,124	31,510	4,598	32,483	8,735
Maple-birch							
Sawtimber	23,595	16,692	25,494	31,277	35,845	19,861	14,272
Poletimber	6,683	5,194	10,203	15,298	7,593	12,039	--
Sapling & seedling	4,900	9,096	--	1,224	--	--	--
All stands	35,178	30,982	35,697	47,799	43,438	31,900	14,272
Aspen							
Sawtimber	--	--	3,795	8,696	--	--	--
Poletimber	3,017	2,031	10,503	--	--	--	--
Sapling & seedling	--	2,679	1,907	--	--	--	--
All stands	3,017	4,710	16,205	8,696	--	--	--
Paper birch							
Sawtimber	--	--	--	--	--	--	--
Poletimber	--	--	--	6,228	--	--	--
Sapling & seedling	--	--	--	--	--	--	--
All stands	--	--	--	6,228	--	--	--
Exotic							
Sawtimber	--	--	--	--	--	--	--
Poletimber	--	--	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--
All stands	--	--	--	--	--	--	--
Nonstocked	--	--	--	--	--	--	--
All types							
Sawtimber	64,156	60,970	73,074	126,930	91,712	71,882	37,570
Poletimber	16,271	32,516	37,190	43,807	20,157	51,681	--
Sapling & seedling	8,566	14,857	1,907	5,369	2,187	--	--
Nonstocked	--	--	--	--	--	--	--
All stands	88,993	108,343	112,171	176,106	114,056	123,563	37,570

Table 37.--Net volume of sawtimber on commercial forest land by forest type, stand-size class, and basal-area class, Southeast Unit, Wisconsin, 1983

(In thousand board feet)[1/]

Forest type and stand-size class	All classes	Basal-area class (square feet per acre)						
		0-10	11-20	21-30	31-40	41-50	51-60	61-70
Jack pine								
Sawtimber	--	--	--	--	--	--	--	--
Poletimber	--	--	--	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--	--
All stands	--	--	--	--	--	--	--	--
Red pine								
Sawtimber	22,048	--	--	--	--	--	--	--
Poletimber	1,400	--	--	--	--	--	--	--
Sapling & seedling	1,898	--	--	--	--	--	--	--
All stands	25,346	--	--	--	--	--	--	--
White pine								
Sawtimber	42,423	--	--	--	9,588	--	--	--
Poletimber	2,394	--	--	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--	--
All stands	44,817	--	--	--	9,588	--	--	--
Balsam fir								
Sawtimber	--	--	--	--	--	--	--	--
Poletimber	--	--	--	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--	--
All stands	--	--	--	--	--	--	--	--
White spruce								
Sawtimber	--	--	--	--	--	--	--	--
Poletimber	2,579	--	--	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--	--
All stands	2,579	--	--	--	--	--	--	--
Black spruce								
Sawtimber	--	--	--	--	--	--	--	--
Poletimber	--	--	--	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--	--
All stands	--	--	--	--	--	--	--	--
Northern white-cedar								
Sawtimber	112,116	--	--	--	--	11,897	--	--
Poletimber	25,578	--	--	--	--	--	--	--
Sapling & seedling	5,379	--	--	2,150	--	--	--	--
All stands	143,073	--	--	2,150	--	11,897	--	--

[1/] International 1/4-inch rule.

(Table 37 continued on next page)

(Table 37 continued)

Forest type and stand-size class	Basal-area class (square feet per acre)						
	71-80	81-90	91-100	101-120	121-150	151-180	181+
Jack pine							
Sawtimber	--	--	--	--	--	--	--
Poletimber	--	--	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--
All stands	--	--	--	--	--	--	--
Red pine							
Sawtimber	--	--	--	--	--	22,048	--
Poletimber	--	1,400	--	--	--	--	--
Sapling & seedling	--	--	--	--	1,898	--	--
All stands	--	1,400	--	--	1,898	22,048	--
White pine							
Sawtimber	--	--	--	--	32,835	--	--
Poletimber	1,918	--	--	476	--	--	--
Sapling & seedling	--	--	--	--	--	--	--
All stands	1,918	--	--	476	32,835	--	--
Balsam fir							
Sawtimber	--	--	--	--	--	--	--
Poletimber	--	--	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--
All stands	--	--	--	--	--	--	--
White spruce							
Sawtimber	--	--	--	--	--	--	--
Poletimber	--	--	2,579	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--
All stands	--	--	2,579	--	--	--	--
Black spruce							
Sawtimber	--	--	--	--	--	--	--
Poletimber	--	--	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--
All stands	--	--	--	--	--	--	--
Northern white-cedar							
Sawtimber	6,060	--	--	--	43,794	12,074	38,291
Poletimber	--	954	--	2,244	993	21,387	--
Sapling & seedling	--	3,229	--	--	--	--	--
All stands	6,060	4,183	--	2,244	44,787	33,461	38,291

(Table 37 continued on next page)

(Table 37 continued)

Forest type and stand-size class	All classes	Basal-area class (square feet per acre) 0-10	11-20	21-30	31-40	41-50	51-60	61-70
Tamarack								
Sawtimber	3,781	--	--	3,781	--	--	--	--
Poletimber	1,838	--	--	--	--	--	1,838	--
Sapling & seedling	846	--	846	--	--	--	--	--
All stands	6,465	--	846	3,781	--	--	1,838	--
Oak-hickory								
Sawtimber	1,069,762	--	3,524	4,734	4,128	50,179	31,802	59,303
Poletimber	37,746	--	--	--	--	--	2,288	--
Sapling & seedling	10,202	--	960	3,125	--	--	3,532	--
All stands	1,117,710	--	4,484	7,859	4,128	50,179	37,622	59,303
Elm-ash-soft maple								
Sawtimber	326,653	--	--	8,675	14,089	9,849	45,279	12,429
Poletimber	116,242	--	675	6,500	3,917	5,565	7,693	7,886
Sapling & seedling	27,903	--	1,382	--	5,725	4,489	--	8,364
All stands	470,798	--	2,057	15,175	23,731	19,903	52,972	28,679
Maple-birch								
Sawtimber	691,521	--	--	--	5,995	28,958	19,223	22,826
Poletimber	115,671	--	--	--	--	7,480	6,084	--
Sapling & seedling	61,014	--	--	--	3,896	10,940	--	7,639
All stands	868,206	--	--	--	9,891	47,378	25,307	30,465
Aspen								
Sawtimber	44,726	--	--	--	--	--	5,111	--
Poletimber	22,148	--	--	2,197	--	2,485	--	--
Sapling & seedling	13,928	--	--	1,849	1,924	--	--	3,713
All stands	80,802	--	--	4,046	1,924	2,485	5,111	3,713
Paper birch								
Sawtimber	--	--	--	--	--	--	--	--
Poletimber	12,779	--	--	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--	--
All stands	12,779	--	--	--	--	--	--	--
Exotic								
Sawtimber	--	--	--	--	--	--	--	--
Poletimber	--	--	--	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--	--
All stands	--	--	--	--	--	--	--	--
Nonstocked	1,871	569	1,302	--	--	--	--	--
All types								
Sawtimber	2,313,030	--	3,524	17,190	33,800	100,883	101,415	94,558
Poletimber	338,375	--	675	8,697	3,917	15,530	17,903	7,886
Sapling & seedling	121,170	--	3,188	7,124	11,545	15,429	3,532	19,716
Nonstocked	1,871	569	1,302	--	--	--	--	--
All stands	2,774,446	569	8,689	33,011	49,262	131,842	122,850	122,160

(Table 37 continued on next page)

(Table 37 continued)

Forest type and stand-size class	Basal-area class (square feet per acre)						
	71-80	81-90	91-100	101-120	121-150	151-180	181+
Tamarack							
Sawtimber	--	--	--	--	--	--	--
Poletimber	--	--	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--
All stands	--	--	--	--	--	--	--
Oak-hickory							
Sawtimber	130,270	154,432	108,394	263,953	134,313	124,730	--
Poletimber	7,935	4,637	8,161	4,450	10,275	--	--
Sapling & seedling	--	--	--	2,585	--	--	--
All stands	138,205	159,069	116,555	270,988	144,588	124,730	--
Elm-ash-soft maple							
Sawtimber	30,068	11,372	68,315	72,284	--	23,454	30,839
Poletimber	2,370	8,411	6,104	22,030	8,191	36,900	--
Sapling & seedling	718	7,225	--	--	--	--	--
All stands	33,156	27,008	74,419	94,314	8,191	60,354	30,839
Maple-birch							
Sawtimber	92,473	66,156	101,881	120,609	127,692	61,418	44,290
Poletimber	9,717	10,580	14,228	30,447	17,496	19,639	--
Sapling & seedling	12,073	21,775	--	4,691	--	--	--
All stands	114,263	98,511	116,109	155,747	145,188	81,057	44,290
Aspen							
Sawtimber	--	--	11,344	28,271	--	--	--
Poletimber	2,823	1,579	13,064	--	--	--	--
Sapling & seedling	--	--	6,442	--	--	--	--
All stands	2,823	1,579	30,850	28,271	--	--	--
Paper birch							
Sawtimber	--	--	--	--	--	--	--
Poletimber	--	--	--	12,779	--	--	--
Sapling & seedling	--	--	--	--	--	--	--
All stands	--	--	--	12,779	--	--	--
Exotic							
Sawtimber	--	--	--	--	--	--	--
Poletimber	--	--	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--
All stands	--	--	--	--	--	--	--
Nonstocked	--	--	--	--	--	--	--
All types							
Sawtimber	258,871	231,960	289,934	485,117	338,634	243,724	113,420
Poletimber	24,763	27,561	44,136	72,426	36,955	77,926	--
Sapling & seedling	12,791	32,229	6,442	7,276	1,898	--	--
Nonstocked	--	--	--	--	--	--	--
All stands	296,425	291,750	340,512	564,819	377,487	321,650	113,420

Table 38.--Net volume of sawtimber on commercial forest land by species group and butt log grade, Southeast Unit, Wisconsin, 1983

(In thousand board feet)[1/]

Species group	All grades	Butt log grade			
		1	2	3	Tie and timber
Softwoods					
Jack pine	3,561	86	267	3,208	--
Red pine	41,833	8,946	2,801	30,086	--
White pine	57,630	--	44,955	12,675	--
White spruce	11,350	--	--	11,350	--
Black spruce	--	--	--	--	--
Balsam fir	2,000	--	--	2,000	--
Hemlock	5,006	--	--	5,006	--
Tamarack	23,041	--	--	23,041	--
Eastern white-cedar	1,734	--	--	1,734	--
Northern white-cedar	179,244	--	--	179,244	--
Other softwoods	--	--	--	--	--
Total	325,399	9,032	48,023	268,344	--
Hardwoods					
White oak	489,711	37,832	142,540	251,984	57,355
Select red oak	337,065	46,691	72,031	218,343	--
Other red oak	181,417	--	7,311	169,237	4,869
Select hickory	96,411	--	--	96,411	--
Other hickory	12,407	--	--	12,407	--
Basswood	96,363	11,993	37,554	46,816	--
Beech	53,080	--	12,318	40,762	--
Yellow birch	9,302	--	1,953	6,354	995
Hard maple	242,902	16,177	73,464	153,261	--
Soft maple	180,078	--	47,855	132,223	--
Elm	109,250	--	31,046	78,204	--
Black ash	49,617	--	--	49,617	--
White & green ash	215,431	68,334	24,166	111,844	11,087
Cottonwood	15,931	5,048	899	9,068	916
Willow	46,317	--	29,476	16,841	--
Hackberry	3,841	--	--	3,841	--
Balsam poplar	11,434	--	--	11,434	--
Bigtooth aspen	61,791	--	11,199	50,592	--
Quaking aspen	60,688	--	--	60,688	--
Paper birch	26,361	--	--	26,361	--
River birch	--	--	--	--	--
Black cherry	110,756	8,358	43,026	52,280	7,092
Black walnut	23,844	--	--	23,844	--
Butternut	6,018	--	1,259	4,759	--
Other hardwoods	9,032	--	--	9,032	--
Total	2,449,047	194,433	536,097	1,636,203	82,314
All species	2,774,446	203,465	584,120	1,904,547	82,314

[1/] International 1/4-inch rule.

Table 39.--Net volume of short-log trees on commercial forest land by species group and diameter class, Southeast Unit, Wisconsin, 1983

(In thousand cubic feet)

Species group	All classes	Diameter class (inches at breast height) 9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0-28.9	29.0-38.9	39.0+
Softwoods											
Jack pine	--	--	--	--	--	--	--	--	--	--	--
Red pine	--	--	--	--	--	--	--	--	--	--	--
White pine	--	--	--	--	--	--	--	--	--	--	--
White spruce	--	--	--	--	--	--	--	--	--	--	--
Black spruce	--	--	--	--	--	--	--	--	--	--	--
Balsam fir	--	--	--	--	--	--	--	--	--	--	--
Hemlock	--	--	--	--	--	--	--	--	--	--	--
Tamarack	--	--	--	--	--	--	--	--	--	--	--
Northern white-cedar	954	338	184	163	269	--	--	--	--	--	--
Other softwoods	--	--	--	--	--	--	--	--	--	--	--
Total	954	338	184	163	269	--	--	--	--	--	--
Hardwoods											
White oak	13,648	--	616	2,067	2,523	1,033	876	2,358	3,001	1,174	--
Select red oak	4,712	--	--	211	884	--	559	1,505	694	859	--
Other red oak	7,551	--	329	952	1,264	665	2,299	494	1,072	316	160
Select hickory	1,912	--	182	712	884	134	--	--	--	--	--
Other hickory	--	--	--	--	--	--	--	--	--	--	--
Basswood	3,341	--	--	--	1,105	266	1,260	247	463	--	--
Beech	587	--	--	--	380	--	--	--	207	--	--
Yellow birch	207	--	--	207	--	--	--	--	--	--	--
Hard maple	5,259	--	200	727	821	493	328	937	684	1,069	--
Soft maple	4,798	--	262	157	200	1,339	408	289	955	438	750
Elm	2,319	--	312	--	574	226	279	251	677	--	--
Black ash	156	--	--	--	156	--	--	--	--	--	--
White & green ash	2,677	--	352	470	229	209	--	--	1,417	--	--
Cottonwood	389	--	156	233	--	--	--	--	--	--	--
Willow	1,889	--	--	379	207	202	211	416	213	261	--
Hackberry	--	--	--	--	--	--	--	--	--	--	--
Balsam poplar	327	--	--	--	--	327	--	--	--	--	--
Bigtooth aspen	1,121	--	--	1,121	--	--	--	--	--	--	--
Quaking aspen	428	--	--	178	250	--	--	--	--	--	--
Paper birch	--	--	--	--	--	--	--	--	--	--	--
River birch	--	--	--	--	--	--	--	--	--	--	--
Black cherry	2,742	--	--	946	871	--	211	252	462	--	--
Black walnut	320	--	--	--	--	--	320	--	--	--	--
Butternut	--	--	--	--	--	--	--	--	--	--	--
Other hardwoods	930	--	281	133	211	148	--	--	--	157	--
Total	55,313	--	2,690	8,493	10,559	5,042	6,751	6,749	9,845	4,274	910
All species	56,267	338	2,874	8,656	10,828	5,042	6,751	6,749	9,845	4,274	910

Table 40.--Net volume of short-log trees on commercial forest land by species group and diameter class, Southeast Unit, Wisconsin, 1983

(In thousand board feet)[1/]

Species group	All classes	Diameter class (inches at breast height) 9.0 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 22.9	23.0- 28.9	29.0- 38.9	39.0+
Softwoods											
Jack pine	--	--	--	--	--	--	--	--	--	--	--
Red pine	--	--	--	--	--	--	--	--	--	--	--
White pine	--	--	--	--	--	--	--	--	--	--	--
White spruce	--	--	--	--	--	--	--	--	--	--	--
Black spruce	--	--	--	--	--	--	--	--	--	--	--
Balsam fir	--	--	--	--	--	--	--	--	--	--	--
Hemlock	--	--	--	--	--	--	--	--	--	--	--
Tamarack	--	--	--	--	--	--	--	--	--	--	--
Northern white-cedar	3,298	1,116	626	580	976	--	--	--	--	--	--
Other softwoods	--	--	--	--	--	--	--	--	--	--	--
Total	3,298	1,116	626	580	976	--	--	--	--	--	--
Hardwoods											
White oak	35,204	--	1,723	5,541	6,603	2,609	2,221	5,974	7,578	2,955	--
Select red oak	10,797	--	--	458	1,996	--	1,286	3,420	1,602	2,035	--
Other red oak	17,277	--	710	2,144	2,829	1,516	5,244	1,141	2,534	762	397
Select hickory	5,250	--	534	1,989	2,358	369	--	--	--	--	--
Other hickory	--	--	--	--	--	--	--	--	--	--	--
Basswood	7,260	--	--	--	2,378	559	2,755	546	1,022	--	--
Beech	1,598	--	--	--	1,041	--	--	--	557	--	--
Yellow birch	495	--	--	495	--	--	--	--	--	--	--
Hard maple	13,182	--	448	1,699	2,000	1,194	827	2,385	1,764	2,865	--
Soft maple	12,439	--	865	495	518	3,436	1,054	715	2,384	1,100	1,872
Elm	5,997	--	803	--	1,424	579	714	659	1,818	--	--
Black ash	420	--	--	--	420	--	--	--	--	--	--
White & green ash	6,080	--	884	1,156	526	486	--	--	3,028	--	--
Cottonwood	1,166	--	474	692	--	--	--	--	--	--	--
Willow	5,780	--	--	1,076	597	616	646	1,306	679	860	--
Hackberry	--	--	--	--	--	--	--	--	--	--	--
Balsam poplar	799	--	--	--	--	799	--	--	--	--	--
Bigtooth aspen	1,797	--	--	1,797	--	--	--	--	--	--	--
Quaking aspen	978	--	--	401	577	--	--	--	--	--	--
Paper birch	--	--	--	--	--	--	--	--	--	--	--
River birch	--	--	--	--	--	--	--	--	--	--	--
Black cherry	7,019	--	--	2,486	2,251	--	546	605	1,131	--	--
Black walnut	793	--	--	--	--	--	793	--	--	--	--
Butternut	--	--	--	--	--	--	--	--	--	--	--
Other hardwoods	3,388	--	1,016	476	749	541	--	--	--	606	--
Total	137,719	--	7,457	20,905	26,267	12,704	16,086	16,751	24,097	11,183	2,269
All species	141,017	1,116	8,083	21,485	27,243	12,704	16,086	16,751	24,097	11,183	2,269

[1/] International 1/4-inch rule.

Table 41.--Net annual growth of growing stock on commercial forest land by softwoods and hardwoods, Southeast Unit, Wisconsin, 1967 and 1982

(In thousand cubic feet)

Species	1967[1/]	1982
Softwoods	4,600	6,107
Hardwoods	13,700	17,291
All species	18,300	23,398

[1/] Figures have been adjusted from those published after the 1968 survey to conform to 1982 volumes because of changes in survey procedures and volume equations.

Table 42.--Net annual growth of growing stock on commercial forest land by species group and county, Southeast Unit, Wisconsin, 1982

(In thousand cubic feet)

Species group	All counties	County											
		Brown	Calumet	Columbia	Dane	Dodge	Door	Fond du Lac	Green	Green Lake	Jefferson	Kenosha	Kewaunee
Softwoods													
Jack pine	87	--	--	12	75	--	--	--	--	--	--	--	--
Red pine	2,026	--	--	751	--	--	--	240	--	28	886	--	--
White pine	875	--	--	44	24	88	33	--	92	140	--	58	14
White spruce	446	--	--	122	--	--	55	--	14	--	--	--	--
Black spruce	154	--	--	--	--	--	5	--	--	--	--	--	--
Balsam fir	64	--	--	--	--	--	64	--	--	--	--	--	--
Hemlock	99	4	--	--	--	--	14	--	--	--	--	--	79
Tamarack	1	--	--	4	18	--	-2	19	--	13	--	--	17
Eastern redcedar	127	30	--	6	11	--	66	--	--	--	--	--	--
Northern white-cedar	2,201	7	212	--	--	--	1,094	--	--	--	--	--	291
Other softwoods	27	--	--	--	--	--	--	--	--	--	--	27	--
Total	6,107	41	212	939	128	88	1,329	259	106	181	886	85	401
Hardwoods													
White oak	2,011	36	--	351	596	15	--	74	58	70	153	35	-12
Select red oak	1,304	89	9	109	159	18	52	50	55	49	110	25	4
Other red oak	1,365	--	--	578	343	--	--	40	11	191	3	3	--
Select hickory	836	--	6	33	98	--	--	30	37	37	38	21	--
Other hickory	337	--	6	12	116	180	--	--	5	--	--	1	13
Basswood	813	235	81	74	--	16	17	34	25	--	19	2	75
Beech	449	19	23	--	--	--	431	33	--	--	--	--	6
Yellow birch	200	27	58	--	--	--	10	--	--	--	--	--	67
Hard maple	1,817	195	12	--	--	9	362	117	60	--	152	--	258
Soft maple	1,650	478	9	7	40	16	80	37	--	105	1	--	119
Elm	-1,976	-162	-79	40	44	-47	-114	-10	-227	2	-55	2	-161
Black ash	1,220	92	--	--	--	27	146	26	80	--	22	--	22
White & green ash	2,421	312	187	21	--	89	300	27	17	--	121	22	168
Cottonwood	98	--	--	4	3	--	--	22	11	--	--	--	--
Willow	289	8	--	--	--	--	20	-11	--	--	--	--	34
Hackberry	15	--	--	10	--	--	--	--	--	--	5	--	--
Balsam poplar	27	--	--	--	--	--	26	--	--	--	--	--	--
Bigtooth aspen	386	34	--	36	67	4	129	--	34	--	--	--	-8
Quaking aspen	1,635	152	43	437	122	34	234	182	4	11	-43	--	-4
Paper birch	535	27	9	8	25	--	123	9	--	3	--	--	1
River birch	--	--	--	--	--	--	--	--	--	--	--	--	--
Black cherry	1,179	--	--	269	225	19	81	40	33	32	43	--	18
Black walnut	167	--	--	--	60	--	--	4	49	--	--	2	--
Butternut	63	7	--	2	--	--	--	--	4	--	--	--	37
Other hardwoods	450	--	26	149	168	8	-11	2	--	--	9	--	--
Total	17,291	1,549	390	2,140	2,066	388	1,886	706	256	500	578	113	637
All species	23,398	1,590	602	3,079	2,194	476	3,215	965	362	681	1,464	198	1,038

(Table 42 continued on next page)

(Table 42 continued)

Species group	County										
	Manitowoc	Milwaukee	Outagamie	Ozaukee	Racine	Rock	Sheboygan	Walworth	Washington	Waukesha	Winnebago
Softwoods											
Jack pine	--	--	--	--	--	--	--	--	--	--	--
Red pine	--	--	95	--	--	9	17	--	--	--	--
White pine	153	--	117	--	--	--	96	--	16	--	--
White spruce	--	--	--	--	--	--	255	--	--	--	--
Black spruce	149	--	--	--	--	--	--	--	--	--	--
Balsam fir	--	--	--	--	--	--	--	--	--	--	--
Hemlock	2	--	--	--	--	--	--	--	--	--	--
Tamarack	9	--	-22	-88	--	--	29	--	4	--	--
Eastern redcedar	--	--	14	--	--	--	--	--	--	--	--
Northern white-cedar	323	--	99	40	--	--	85	--	50	--	--
Other softwoods	--	--	--	--	--	--	--	--	--	--	--
Total	636	--	303	-48	--	9	482	--	70	--	--
Hardwoods											
White oak	8	--	48	13	13	250	26	175	25	62	15
Select red oak	57	--	20	--	11	51	113	39	25	155	104
Other red oak	--	--	--	--	13	145	10	17	--	11	--
Select hickory	--	--	--	--	19	253	27	97	18	10	112
Other hickory	--	--	4	--	--	--	--	--	--	--	--
Basswood	10	--	23	1	--	--	28	--	45	--	128
Beech	-34	--	-4	-17	--	--	-8	--	--	--	--
Yellow birch	-20	--	29	--	--	--	11	--	18	--	--
Hard maple	156	--	71	78	19	--	208	--	59	--	61
Soft maple	173	--	334	--	--	8	23	--	193	13	14
Elm	-668	--	-374	-171	--	57	5	7	-167	-72	174
Black ash	-2	--	390	23	--	--	15	--	216	54	109
White & green ash	229	--	271	81	26	39	280	--	65	--	166
Cottonwood	31	--	--	--	--	27	--	--	--	--	--
Willow	12	--	111	--	--	106	9	--	--	--	--
Hackberry	--	--	--	--	--	--	--	--	--	--	--
Balsam poplar	1	--	--	--	--	--	--	--	--	--	--
Bigtooth aspen	--	--	22	-14	--	--	24	--	--	--	58
Quaking aspen	212	--	58	--	7	--	30	34	18	83	21
Paper birch	68	--	137	92	--	--	33	--	--	--	--
River birch	--	--	--	--	--	--	--	--	--	--	--
Black cherry	34	--	19	--	9	77	27	126	87	40	--
Black walnut	--	--	--	--	--	45	--	7	--	--	--
Butternut	--	--	--	--	--	--	9	--	4	--	--
Other hardwoods	--	--	--	--	43	--	--	--	49	7	--
Total	267	--	1,159	86	160	1,058	870	502	655	363	962
All species	903	--	1,462	38	160	1,067	1,352	502	725	363	962

Table 43.--Net annual growth of sawtimber on commercial forest land by species group and county, Southeast Unit, Wisconsin, 1982

(In thousand board feet)[1/]

Species group	All counties	County												
		Brown	Calumet	Columbia	Dane	Dodge	Door	Fond du Lac	Green	Green Lake	Jefferson	Kenosha	Kewaunee
Softwoods													
Jack pine	126	--	--	--	126	--	--	--	--	--	--	--	--
Red pine	2,554	--	--	--	--	--	--	1,574	--	--	117	--	--
White pine	2,713	--	--	89	--	--	195	--	521	--	--	385	91
White spruce	724	--	--	--	--	--	450	--	78	--	--	--	--
Black spruce	--	--	--	--	--	--	--	--	--	--	--	--	--
Balsam fir	732	--	--	--	--	--	732	--	--	--	--	--	--
Hemlock	133	21	--	--	--	--	22	--	--	--	--	--	79
Tamarack	449	--	--	25	103	--	-61	114	--	--	--	--	178
Eastern redcedar	61	--	--	--	61	--	--	--	--	--	--	--	--
Northern white-cedar	6,720	--	467	--	--	--	2,707	--	--	--	--	--	1,363
Other softwoods	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	14,212	21	467	114	290	--	4,045	1,688	599	--	117	385	1,711
Hardwoods													
White oak	11,400	143	--	2,906	3,973	75	--	315	244	77	583	232	-58
Select red oak	7,353	422	95	828	883	91	114	244	292	247	496	171	24
Other red oak	6,034	--	--	2,548	2,029	--	--	289	20	150	16	12	--
Select hickory	3,326	--	87	109	1,278	--	--	78	33	194	379	111	--
Other hickory	645	--	--	--	93	549	--	--	--	--	--	3	--
Basswood	2,718	572	244	353	--	84	80	63	16	--	103	--	349
Beech	319	-4	20	--	--	--	78	462	--	--	--	--	-7
Yellow birch	87	96	1	--	--	--	18	--	--	--	--	--	-15
Hard maple	7,511	1,121	68	--	--	51	1,753	380	238	--	696	--	1,262
Soft maple	6,065	2,139	8	27	122	102	491	45	--	--	--	--	682
Elm	-8,847	-599	-361	290	85	-115	-724	688	-1,183	--	-346	30	-647
Black ash	4,036	--	--	--	--	44	127	29	2,369	--	36	--	134
White & green ash	8,435	1,007	372	83	--	319	1,488	121	-63	--	402	140	395
Cottonwood	207	--	--	21	14	--	--	26	59	--	--	--	--
Willow	1,081	38	--	--	--	--	5	-41	--	--	--	--	159
Hackberry	110	--	--	87	--	--	--	--	--	--	23	--	--
Balsam poplar	47	--	--	--	--	--	47	--	--	--	--	--	--
Bigtooth aspen	2,538	452	--	220	369	107	717	--	-61	--	--	--	-41
Quaking aspen	4,357	50	--	894	393	75	1,098	24	--	--	--	--	-70
Paper birch	755	-67	51	--	--	--	156	14	--	--	--	--	-4
River birch	--	--	--	--	--	--	--	--	--	--	--	--	--
Black cherry	3,847	---	--	385	1,231	79	506	469	123	121	63	--	--
Black walnut	680	--	--	--	291	--	--	18	207	--	--	9	--
Butternut	108	32	--	--	--	--	--	--	18	--	--	--	39
Other hardwoods	286	--	31	--	234	--	-62	--	--	--	--	--	--
Total	63,098	5,402	616	8,751	10,995	1,461	5,892	3,224	2,312	789	2,451	708	2,202
All species	77,310	5,423	1,083	8,865	11,285	1,461	9,937	4,912	2,911	789	2,568	1,093	3,913

(Table 43 continued on next page)

[1/] International 1/4-inch rule

(Table 43 continued)

Species group	County										
	Manitowoc	Milwaukee	Outagamie	Ozaukee	Racine	Rock	Sheboygan	Walworth	Washington	Waukesha	Winnebago
Softwoods											
Jack pine	--	--	--	--	--	--	--	--	--	--	--
Red pine	--	--	812	--	--	51	--	--	--	--	--
White pine	862	--	524	--	--	--	46	--	--	--	--
White spruce	--	--	--	--	--	--	196	--	--	--	--
Black spruce	--	--	--	--	--	--	--	--	--	--	--
Balsam fir	--	--	--	--	--	--	--	--	--	--	--
Hemlock	11	--	--	--	--	--	--	--	--	--	--
Tamarack	12	--	-36	--	--	--	93	--	21	--	--
Eastern redcedar	--	--	--	--	--	--	--	--	--	--	--
Northern white-cedar	845	--	308	285	--	--	399	--	346	--	--
Other softwoods	--	--	--	--	--	--	--	--	--	--	--
Total	1,730	--	1,608	285	--	51	734	--	367	--	--
Hardwoods											
White oak	96	--	260	63	47	1,082	111	821	112	250	68
Select red oak	347	--	71	--	57	265	623	442	132	726	783
Other red oak	--	--	--	--	61	701	23	81	--	104	--
Select hickory	--	--	--	--	23	165	76	580	97	34	82
Other hickory	--	--	--	--	--	--	--	--	--	--	--
Basswood	115	--	76	8	--	--	162	--	271	--	222
Beech	-175	--	-32	22	--	--	-45	--	--	--	--
Yellow birch	-68	--	--	--	--	--	35	--	20	--	--
Hard maple	1,037	--	65	-132	98	--	558	--	286	--	30
Soft maple	811	--	1,015	--	--	--	230	--	364	29	--
Elm	-2,684	--	-1,349	-565	--	-16	46	--	-1,004	-315	-78
Black ash	64	--	581	71	--	--	112	--	21	448	--
White & green ash	2,079	--	396	325	19	40	344	--	457	--	511
Cottonwood	60	--	--	--	--	27	--	--	--	--	--
Willow	57	--	745	--	--	118	--	--	--	--	--
Hackberry	--	--	--	--	--	--	--	--	--	--	--
Balsam poplar	--	--	--	--	--	--	--	--	--	--	--
Bigtooth aspen	102	--	342	--	--	--	16	--	--	--	315
Quaking aspen	1,091	--	352	--	--	--	108	22	147	131	42
Paper birch	21	--	240	273	--	--	71	--	--	--	--
River birch	--	--	--	--	--	--	--	--	--	--	--
Black cherry	32	--	126	--	--	242	--	307	55	108	--
Black walnut	--	--	--	--	--	120	--	35	--	--	--
Butternut	--	--	--	--	--	--	--	--	19	--	--
Other hardwoods	--	--	--	--	--	--	--	--	58	25	--
Total	2,985	--	2,888	65	305	2,744	2,470	2,288	1,035	1,540	1,975
All species	4,715	--	4,496	350	305	2,795	3,204	2,288	1,402	1,540	1,975

Table 44.--Net annual growth of growing stock and sawtimber on commercial forest land by ownership class and softwoods and hardwoods, Southeast Unit, Wisconsin, 1982

Ownership class	Growing stock			Sawtimber		
	All species	Softwoods	Hardwoods	All species	Softwoods	Hardwoods
	- - - - Thousand cubic feet - - - -			- - - Thousand board feet[1] - - -		
National Forest	--	--	--	--	--	--
Miscellaneous federal	12	--	12	98	--	98
State	1,389	421	968	4,341	2,668	1,673
County and municipal	470	21	449	2,059	--	2,059
Indian	--	--	--	--	--	--
Forest industry	350	161	189	959	115	844
Farmer	11,025	2,402	8,623	41,174	6,955	34,219
Misc. private-corp.	1,007	249	758	3,810	1,151	2,659
Misc. private-indiv.	9,145	2,853	6,292	24,869	3,323	21,546
All owners	23,398	6,107	17,291	77,310	14,212	63,098

[1] International 1/4-inch rule.

Table 45.--Net annual growth of growing stock on commercial forest land by species group and type, Southeast Unit, Wisconsin, 1982

(In thousand cubic feet)

Species group	All types	Forest type							
		Jack pine	Red pine	White pine	Balsam fir	White spruce	Black spruce	Northern white-cedar	Tamarack
Softwoods									
Jack pine	87	61	--	--	--	--	--	--	--
Red pine	2,026	--	1,877	123	--	17	--	--	--
White pine	875	24	--	596	--	--	--	39	7
White spruce	446	--	--	14	--	255	--	17	--
Black spruce	154	--	--	--	--	--	149	5	--
Balsam fir	64	--	--	--	--	--	--	32	--
Hemlock	99	--	--	--	--	--	--	10	--
Tamarack	1	--	--	--	--	--	--	-6	57
Eastern redcedar	127	--	--	--	--	--	--	--	--
Northern white-cedar	2,201	--	--	--	--	--	--	1,386	--
Other softwoods	27	--	--	27	--	--	--	--	--
Total	6,107	85	1,877	760	--	272	149	1,483	64
Hardwoods									
White oak	2,011	--	--	--	--	--	--	--	--
Select red oak	1,304	--	--	--	--	--	--	--	--
Other red oak	1,365	--	14	--	--	--	--	--	--
Select hickory	836	--	--	--	--	--	--	13	--
Other hickory	337	--	--	--	--	--	--	4	--
Basswood	813	--	--	--	--	--	--	26	--
Beech	449	--	--	--	--	--	--	--	--
Yellow birch	200	--	--	--	--	--	--	69	--
Hard maple	1,817	--	--	--	--	--	--	7	--
Soft maple	1,650	9	--	--	--	--	--	24	--
Elm	-1,976	--	--	-4	--	--	--	-123	13
Black ash	1,220	--	--	--	--	--	--	18	20
White & green ash	2,421	--	--	--	--	16	--	4	--
Cottonwood	98	--	--	--	--	--	--	--	--
Willow	289	--	--	--	--	--	--	8	--
Hackberry	15	--	--	--	--	--	--	--	--
Balsam poplar	27	--	--	--	--	--	--	--	--
Bigtooth aspen	386	--	--	15	--	--	--	--	--
Quaking aspen	1,635	--	--	--	--	--	189	69	--
Paper birch	535	--	--	--	--	--	--	84	3
River birch	--	--	--	--	--	--	--	--	--
Black cherry	1,179	--	--	14	--	--	--	--	--
Black walnut	167	--	--	--	--	--	--	--	--
Butternut	63	--	--	--	--	--	--	--	--
Other hardwoods	450	--	--	--	--	--	--	--	--
Total	17,291	9	14	25	--	16	189	203	36
All species	23,398	94	1,891	785	--	288	338	1,686	100

(Table 45 contnued on next page)

(Table 45 continued)

Species group	Forest type						
	Oak-hickory	Elm-ash-soft maple	Maple-birch	Aspen	Paper birch	Exotic	Non-stocked
Softwoods							
Jack pine	26	--	--	--	--	--	--
Red pine	9	--	--	--	--	--	--
White pine	8	8	183	--	--	--	10
White spruce	122	38	--	--	--	--	--
Black spruce	--	--	--	--	--	--	--
Balsam fir	--	--	--	32	--	--	--
Hemlock	--	22	62	5	--	--	--
Tamarack	--	28	-94	10	6	--	--
Eastern redcedar	47	80	--	--	--	--	--
Northern white-cedar	--	366	332	77	40	--	--
Other softwoods	--	--	--	--	--	--	--
Total	212	542	483	124	46	--	10
Hardwoods							
White oak	1,752	37	215	7	--	--	--
Select red oak	888	33	377	6	--	--	--
Other red oak	1,069	16	169	97	--	--	--
Select hickory	663	--	147	13	--	--	--
Other hickory	225	--	108	--	--	--	--
Basswood	65	65	657	--	--	--	--
Beech	--	--	449	--	--	--	--
Yellow birch	--	65	66	--	--	--	--
Hard maple	133	23	1,639	15	--	--	--
Soft maple	25	1,092	476	24	--	--	--
Elm	-264	-823	-715	-12	24	--	-72
Black ash	48	850	233	68	-17	--	--
White & green ash	126	1,186	1,041	36	12	--	--
Cottonwood	24	54	--	20	--	--	--
Willow	--	226	46	9	--	--	--
Hackberry	15	--	--	--	--	--	--
Balsam poplar	--	16	-5	16	--	--	--
Bigtooth aspen	133	10	197	31	--	--	--
Quaking aspen	129	176	498	567	7	--	--
Paper birch	36	170	97	77	68	--	--
River birch	--	--	--	--	--	--	--
Black cherry	558	--	480	127	--	--	--
Black walnut	155	--	12	--	--	--	--
Butternut	6	4	53	--	--	--	--
Other hardwoods	50	124	276	--	--	--	--
Total	5,836	3,324	6,516	1,101	94	--	-72
All species	6,048	3,866	6,999	1,225	140	--	-62

Table 46.--Net annual growth of sawtimber on commercial forest land by species group and type, Southeast Unit, Wisconsin, 1982

(In thousand board feet)[1/]

Species group	All types	Forest type							
		Jack pine	Red pine	White pine	Balsam fir	White spruce	Black spruce	Northern white-cedar	Tamarack
Softwoods									
Jack pine	126	--	--	--	--	--	--	--	--
Red pine	2,554	--	1,691	812	--	--	--	--	--
White pine	2,713	--	--	1,537	--	--	--	136	--
White spruce	724	--	--	78	--	196	--	117	--
Black spruce	--	--	--	--	--	--	--	--	--
Balsam fir	732	--	--	--	--	--	--	24	--
Hemlock	133	--	--	--	--	--	--	67	--
Tamarack	449	--	--	--	--	--	--	163	128
Eastern redcedar	61	--	--	--	--	--	--	--	--
Northern white-cedar	6,720	--	--	--	--	--	--	2,964	--
Other softwoods	--	--	--	--	--	--	--	--	--
Total	14,212	--	1,691	2,427	--	196	--	3,471	128
Hardwoods									
White oak	11,400	--	--	--	--	--	--	9	--
Select red oak	7,353	--	--	--	--	--	--	--	--
Other red oak	6,034	--	67	--	--	--	--	--	--
Select hickory	3,326	--	--	--	--	--	--	76	--
Other hickory	645	--	--	--	--	--	--	--	--
Basswood	2,718	--	--	--	--	--	--	135	--
Beech	319	--	--	--	--	--	--	--	--
Yellow birch	87	--	--	--	--	--	--	--	--
Hard maple	7,511	--	--	--	--	--	--	89	--
Soft maple	6,065	--	--	--	--	--	--	160	--
Elm	-8,847	--	--	78	--	--	--	-453	82
Black ash	4,036	--	--	--	--	--	--	--	--
White & green ash	8,435	--	--	--	--	--	--	16	--
Cottonwood	207	--	--	--	--	--	--	--	--
Willow	1,081	--	--	--	--	--	--	37	--
Hackberry	110	--	--	--	--	--	--	--	--
Balsam poplar	47	--	--	--	--	--	--	--	--
Bigtooth aspen	2,538	--	--	--	--	--	--	--	--
Quaking aspen	4,357	--	--	--	--	--	--	984	--
Paper birch	755	--	--	--	--	--	--	183	--
River birch	--	--	--	--	--	--	--	--	--
Black cherry	3,847	--	--	--	--	--	--	--	--
Black walnut	680	--	--	--	--	--	--	--	--
Butternut	108	--	--	--	--	--	--	--	--
Other hardwoods	286	--	--	--	--	--	--	--	--
Total	63,098	--	67	78	--	--	--	1,236	82
All species	77,310	--	1,758	2,505	--	196	--	4,707	210

(Table 46 continued on next page)

[1/] International 1/4-inch rule.

(Table 46 continued)

Species group	Forest type						
	Oak-hickory	Elm-ash-soft maple	Maple-birch	Aspen	Paper birch	Exotic	Non-stocked
Softwoods							
Jack pine	126	--	--	--	--	--	--
Red pine	51	--	--	--	--	--	--
White pine	66	52	863	--	--	--	59
White spruce	--	333	--	--	--	--	--
Black spruce	--	--	--	--	--	--	--
Balsam fir	--	--	--	708	--	--	--
Hemlock	--	22	33	11	--	--	--
Tamarack	--	158	--	--	--	--	--
Eastern redcedar	61	--	--	--	--	--	--
Northern white-cedar	--	1,715	781	975	285	--	--
Other softwoods	--	--	--	--	--	--	--
Total	304	2,280	1,677	1,694	285	--	59
Hardwoods							
White oak	9,687	329	1,349	26	--	--	--
Select red oak	5,152	137	2,035	29	--	--	--
Other red oak	5,404	--	163	400	--	--	--
Select hickory	2,823	--	427	--	--	--	--
Other hickory	645	--	--	--	--	--	--
Basswood	131	306	2,146	--	--	--	--
Beech	--	--	319	--	--	--	--
Yellow birch	--	37	50	--	--	--	--
Hard maple	260	90	6,990	82	--	--	--
Soft maple	181	3,588	2,097	39	--	--	--
Elm	-1,223	-3,906	-3,291	101	119	--	-354
Black ash	36	3,941	59	--	--	--	--
White & green ash	527	4,382	3,239	97	174	--	--
Cottonwood	21	172	--	14	--	--	--
Willow	--	747	297	--	--	--	--
Hackberry	110	--	--	--	--	--	--
Balsam poplar	--	-84	7	124	--	--	--
Bigtooth aspen	639	278	1,374	247	--	--	--
Quaking aspen	105	305	186	2,777	--	--	--
Paper birch	71	252	-24	--	273	--	--
River birch	--	--	--	--	--	--	--
Black cherry	1,768	--	1,659	420	--	--	--
Black walnut	542	--	138	--	--	--	--
Butternut	18	19	71	--	--	--	--
Other hardwoods	84	122	80	--	--	--	--
Total	26,981	10,715	19,371	4,356	566	--	-354
All species	27,285	12,995	21,048	6,050	851	--	-295

Table 47.--Net annual growth of growing stock on commercial forest land by forest type, stand-size class, and basal-area class, Southeast Unit, Wisconsin, 1982

(In thousand cubic feet)

Forest type and stand-size class	All classes	Basal-area class (square feet per acre)													
		0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-150	151-180	181+
Jack pine															
Sawtimber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Poletimber	94	--	--	--	--	--	--	--	--	94	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
All stands	94	--	--	--	--	--	--	--	--	94	--	--	--	--	--
Red pine															
Sawtimber	240	--	--	--	--	--	--	--	--	--	--	--	--	240	--
Poletimber	1,011	--	--	--	--	--	--	125	--	886	--	--	--	--	--
Sapling & seedling	640	--	--	--	--	--	--	--	--	--	--	--	640	--	--
All stands	1,891	--	--	--	--	--	--	125	--	886	--	--	640	240	--
White pine															
Sawtimber	319	--	--	--	106	--	--	--	--	--	--	--	213	--	--
Poletimber	466	--	--	--	--	--	--	--	85	--	168	213	--	--	--
Sapling & seedling	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
All stands	785	--	--	--	106	--	--	--	85	--	168	213	213	--	--
Balsam fir															
Sawtimber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Poletimber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
All stands	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
White spruce															
Sawtimber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Poletimber	288	--	--	--	--	--	--	--	--	--	288	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
All stands	288	--	--	--	--	--	--	--	--	--	288	--	--	--	--
Black spruce															
Sawtimber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Poletimber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sapling & seedling	338	--	--	--	--	--	--	338	--	--	--	--	--	--	--
All stands	338	--	--	--	--	--	--	338	--	--	--	--	--	--	--
Northern white-cedar															
Sawtimber	586	--	--	--	--	20	--	--	20	--	--	--	218	115	213
Poletimber	733	--	--	--	--	--	--	--	--	220	--	53	121	339	--
Sapling & seedling	367	--	--	62	--	--	--	--	166	44	--	95	--	--	--
All stands	1,686	--	--	62	--	20	--	--	186	264	--	148	339	454	213

(Table 47 continued on next page)

(Table 47 continued)

Forest type and stand-size class	All classes	Basal-area class (square feet per acre)													
		0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-150	151-180	181+
Tamarack															
Sawtimber	39	--	--	39	--	--	--	--	--	--	--	--	--	--	--
Poletimber	50	--	--	--	--	--	32	--	--	18	--	--	--	--	--
Sapling & seedling	11	--	11	--	--	--	--	--	--	--	--	--	--	--	--
All stands	100	--	11	39	--	--	32	--	--	18	--	--	--	--	--
Oak-hickory															
Sawtimber	5,130	--	-36	42	-57	119	145	370	757	997	549	1,057	855	332	--
Poletimber	791	--	--	--	--	--	167	--	38	223	140	166	57	--	--
Sapling & seedling	127	5	5	13	--	35	39	--	--	--	--	30	--	--	--
All stands	6,048	5	-31	55	-57	154	351	370	795	1,220	689	1,253	912	332	--
Elm-ash-soft maple															
Sawtimber	1,103	--	--	66	57	131	138	64	-147	31	69	411	--	266	17
Poletimber	2,421	--	180	177	100	91	204	149	17	160	148	333	91	771	--
Sapling & seedling	342	--	-9	--	109	105	--	78	22	37	--	--	--	--	--
All stands	3,866	--	171	243	266	327	342	291	-108	228	217	744	91	1,037	17
Maple-birch															
Sawtimber	3,763	--	--	--	105	-156	232	589	423	351	247	582	724	284	382
Poletimber	2,478	--	--	56	--	144	-18	--	604	265	333	368	208	518	--
Sapling & seedling	758	--	--	--	55	137	13	57	163	318	--	15	--	--	--
All stands	6,999	--	--	56	160	125	227	646	1,190	934	580	965	932	802	382
Aspen															
Sawtimber	308	--	--	--	--	--	45	--	--	--	57	206	--	--	--
Poletimber	691	--	--	100	--	35	65	--	90	16	385	--	--	--	--
Sapling & seedling	226	--	27	18	18	68	--	41	--	35	19	--	--	--	--
All stands	1,225	--	27	118	18	103	110	41	90	51	461	206	--	--	--
Paper birch															
Sawtimber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Poletimber	133	--	--	--	--	--	--	--	--	--	--	133	--	--	--
Sapling & seedling	7	--	7	--	--	--	--	--	--	--	--	--	--	--	--
All stands	140	--	7	--	--	--	--	--	--	--	--	133	--	--	--
Exotic															
Sawtimber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Poletimber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
All stands	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nonstocked	-62	10	-72	--	--	--	--	--	--	--	--	--	--	--	--
All types															
Sawtimber	11,488	--	-36	147	211	114	560	1,023	1,053	1,379	922	2,256	2,010	1,237	612
Poletimber	9,156	--	180	333	100	270	450	274	834	1,882	1,462	1,266	477	1,628	--
Sapling & seedling	2,816	5	41	93	182	345	52	514	351	434	19	140	640	--	--
Nonstocked	-62	10	-72	--	--	--	--	--	--	--	--	--	--	--	--
All stands	23,398	15	113	573	493	729	1,062	1,811	2,238	3,695	2,403	3,662	3,127	2,865	612

Table 48.--Net annual growth of sawtimber on commercial forest land by forest type, stand-size class, and basal-area class, Southeast Unit, Wisconsin, 1982

(In thousand board feet)[1/]

Forest type and stand-size class	All classes	Basal-area class (square feet per acre)													
		0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-150	151-180	181+
Jack pine															
Sawtimber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Poletimber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
All stands	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Red pine															
Sawtimber	1,574	--	--	--	--	--	--	--	--	--	--	--	--	1,574	--
Poletimber	117	--	--	--	--	--	--	--	--	117	--	--	--	--	--
Sapling & seedling	67	--	--	--	--	--	--	--	--	--	--	--	67	--	--
All stands	1,758	--	--	--	--	--	--	--	--	117	--	--	67	1,574	--
White pine															
Sawtimber	2,074	--	--	--	599	--	--	--	--	--	--	--	1,475	--	--
Poletimber	431	--	--	--	--	--	--	--	385	--	--	46	--	--	--
Sapling & seedling	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
All stands	2,505	--	--	--	599	--	--	--	385	--	--	46	1,475	--	--
Balsam fir															
Sawtimber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Poletimber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
All stands	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
White spruce															
Sawtimber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Poletimber	196	--	--	--	--	--	--	--	--	--	196	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
All stands	196	--	--	--	--	--	--	--	--	--	196	--	--	--	--
Black spruce															
Sawtimber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Poletimber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
All stands	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Northern white-cedar															
Sawtimber	2,903	--	--	--	--	233	--	--	162	--	--	--	1,491	371	646
Poletimber	1,571	--	--	--	--	--	--	--	--	32	--	728	10	801	--
Sapling & seedling	233	--	--	143	--	--	--	--	--	90	--	--	--	--	--
All stands	4,707	--	--	143	--	233	--	--	162	122	--	728	1,501	1,172	646

(Table 48 continued on next page)

[1/] International 1/4-inch rule.

(Table 48 continued)

Forest type and stand-size class	All classes	Basal-area class (square feet per acre)													
		0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-150	151-180	181+
Tamarack															
Sawtimber	114	--	--	114	--	--	--	--	--	--	--	--	--	--	--
Poletimber	82	--	--	--	--	--	82	--	--	--	--	--	--	--	--
Sapling & seedling	14	--	14	--	--	--	--	--	--	--	--	--	--	--	--
All stands	210	--	14	114	--	--	82	--	--	--	--	--	--	--	--
Oak-hickory															
Sawtimber	25,163	--	-167	205	-258	672	791	3,159	5,112	2,522	2,633	4,764	3,631	2,099	--
Poletimber	1,808	--	--	--	--	--	53	--	2	-52	1,169	123	513	--	--
Sapling & seedling	314	--	24	30	--	--	154	--	--	--	--	106	--	--	--
All stands	27,285	--	-143	235	-258	672	998	3,159	5,114	2,470	3,802	4,993	4,144	2,099	--
Elm-ash-soft maple															
Sawtimber	6,809	--	--	210	122	607	1,351	264	-299	290	817	2,292	--	946	209
Poletimber	4,563	--	-72	246	120	156	127	2,305	93	-205	82	354	132	1,225	--
Sapling & seedling	1,623	--	-75	--	1,189	113	--	231	32	133	--	--	--	--	--
All stands	12,995	--	-147	456	1,431	876	1,478	2,800	-174	218	899	2,646	132	2,171	209
Maple-birch															
Sawtimber	14,776	--	--	--	374	-294	979	1,363	812	1,099	2,026	1,689	3,535	1,192	2,001
Poletimber	4,394	--	--	--	--	260	-127	--	860	130	545	717	933	1,076	--
Sapling & seedling	1,878	--	--	--	260	566	--	333	83	483	--	153	--	--	--
All stands	21,048	--	--	--	634	532	852	1,696	1,755	1,712	2,571	2,559	4,468	2,268	2,001
Aspen															
Sawtimber	3,336	--	--	--	--	--	242	--	--	--	507	2,587	--	--	--
Poletimber	2,423	--	--	89	--	129	--	--	758	113	1,334	--	--	--	--
Sapling & seedling	291	--	--	31	56	--	--	162	--	--	42	--	--	--	--
All stands	6,050	--	--	120	56	129	242	162	758	113	1,883	2,587	--	--	--
Paper birch															
Sawtimber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Poletimber	851	--	--	--	--	--	--	--	--	--	--	851	--	--	--
Sapling & seedling	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
All stands	851	--	--	--	--	--	--	--	--	--	--	851	--	--	--
Exotic															
Sawtimber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Poletimber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
All stands	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nonstocked	-295	59	-354	--	--	--	--	--	--	--	--	--	--	--	--
All types															
Sawtimber	56,749	--	-167	529	837	1,218	3,363	4,786	5,787	3,911	5,983	11,332	10,132	6,182	2,856
Poletimber	16,436	--	-72	335	120	545	135	2,305	2,098	135	3,326	2,819	1,588	3,102	--
Sapling & seedling	4,420	--	-37	204	1,505	679	154	726	115	706	42	259	67	--	--
Nonstocked	-295	59	-354	--	--	--	--	--	--	--	--	--	--	--	--
All stands	77,310	59	-630	1,068	2,462	2,442	3,652	7,817	8,000	4,752	9,351	14,410	11,787	9,284	2,856

Table 49.--Timber removals from growing stock on commercial forest land by species group and county, Southeast Unit, Wisconsin, 1982

(In thousand cubic feet)

Species group	All counties	County											
		Brown	Calumet	Columbia	Dane	Dodge	Door	Fond du Lac	Green	Green Lake	Jefferson	Kenosha	Kewaunee
Softwoods													
Jack pine	18	--	--	18	--	--	--	--	--	--	--	--	--
Red pine	156	--	--	138	--	--	--	1/	--	12	--	--	--
White pine	106	--	--	20	--	--	18	--	--	5	--	--	11
White spruce	1/	--	--	--	--	--	1/	--	--	--	--	--	--
Black spruce	--	--	--	--	--	--	--	--	--	--	--	--	--
Balsam fir	1	--	--	--	--	--	1	--	--	--	--	--	--
Hemlock	36	--	--	--	--	--	9	--	--	--	--	--	15
Tamarack	1	--	--	--	--	--	1	--	--	--	--	--	1/
Northern white-cedar	540	5	1/	--	--	--	206	--	--	--	--	--	152
Other softwoods	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	858	5	1/	176	--	--	235	1/	--	17	--	--	178
Hardwoods													
White oak	1,318	22	--	464	235	55	--	41	38	34	42	7	--
Select red oak	1,027	49	12	189	112	62	21	12	66	23	31	8	9
Other red oak	757	--	--	326	239	--	--	16	9	14	1	1	--
Hickory	73	--	1/	2	7	3	--	6	2	1	8	1	1
Basswood	220	10	21	53	--	4	7	8	9	--	4	--	11
Beech	79	4	2	--	--	--	35	3	--	--	--	--	8
Yellow birch	41	9	1	--	--	--	24	--	--	--	--	--	1
Hard maple	497	17	24	--	--	17	31	13	7	--	12	--	19
Soft maple	726	23	7	14	4	7	9	15	--	1	--	--	99
Elm	562	83	5	37	5	7	78	49	54	1	9	6	8
Ash	663	17	10	12	--	23	31	8	8	--	9	1	28
Cottonwood	19	--	--	2	1/	--	--	1	1	--	--	--	--
Balsam poplar	11	--	--	--	--	--	10	--	--	--	--	--	--
Bigtooth aspen	157	9	--	4	9	2	10	--	1	--	--	--	13
Quaking aspen	381	25	2	19	13	2	80	4	--	2	--	--	9
Paper birch	265	35	1/	14	1	--	180	2	--	--	--	--	7
Black walnut	35	--	--	--	12	--	--	--	11	--	--	1/	--
Other hardwoods 2/	393	8	1	30	270	9	3	10	7	1	17	--	2
Total	7,224	311	85	1,166	907	191	519	188	213	77	133	24	215
All species	8,082	316	85	1,342	907	191	754	188	213	94	133	24	393

(Table 49 continued on next page)

1/ Less than 500 cubic feet.

2/ Includes black cherry and butternut.

(Table 49 continued)

Species group	County										
	Manitowoc	Milwaukee	Outagamie	Ozaukee	Racine	Rock	Sheboygan	Walworth	Washington	Waukesha	Winnebago
Softwoods											
Jack pine	--	--	--	--	--	--	--	--	--	--	--
Red pine	--	--	6	--	--	--	--	--	--	--	--
White pine	28	--	8	--	--	--	16	--	--	--	--
White spruce	--	--	--	--	--	--	--	--	--	--	--
Black spruce	--	--	--	--	--	--	--	--	--	--	--
Balsam fir	--	--	--	--	--	--	--	--	--	--	--
Hemlock	12	--	--	--	--	--	--	--	--	--	--
Tamarack	1/	--	--	--	--	--	--	--	--	--	--
Northern white-cedar	86	--	--	90	--	--	1	--	--	--	--
Other softwoods	--	--	--	--	--	--	--	--	--	--	--
Total	126	--	14	90	--	--	17	--	--	--	--
Hardwoods											
White oak	29	--	39	3	41	88	61	37	37	32	13
Select red oak	106	--	51	--	19	7	116	37	68	19	10
Other red oak	--	--	--	--	25	115	5	6	--	--	--
Hickory	--	--	8	--	9	4	4	7	4	4	2
Basswood	20	--	27	1	--	--	34	--	9	--	2
Beech	12	--	4	1	--	--	10	--	--	--	--
Yellow birch	--	--	3	--	--	--	1	--	2	--	--
Hard maple	50	--	195	2	13	--	59	--	35	--	3
Soft maple	281	--	202	--	--	13	27	--	5	8	11
Elm	10	--	140	2	--	30	23	--	6	6	3
Ash	75	--	334	12	6	3	46	--	31	2	7
Cottonwood	12	--	--	--	--	3	--	--	--	--	--
Balsam poplar	1	--	--	--	--	--	--	--	--	--	--
Bigtooth aspen	4	--	101	--	--	--	2	--	--	--	2
Quaking aspen	10	--	208	--	1	--	2	1	1	1	1
Paper birch	11	--	12	2	--	--	1	--	--	--	--
Black walnut	--	--	--	--	--	9	--	3	--	--	--
Other hardwoods 2/	2	--	16	--	1	9	2	3	1	1	--
Total	623	--	1,340	23	115	281	393	94	199	73	54
All species	749	--	1,354	113	115	281	410	94	199	73	54

1/ Less than 500 cubic feet.

2/ Includes black cherry and butternut.

Table 50.--Timber removals from sawtimber on commercial forest land by species group and county, Southeast Unit, Wisconsin, 1982

(In thousand board feet)[1/]

Species group	All counties	County											
		Brown	Calumet	Columbia	Dane	Dodge	Door	Fond du Lac	Green	Green Lake	Jefferson	Kenosha	Kewaunee
Softwoods													
Jack pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Red pine	15	--	--	--	--	--	--	1	--	--	--	--	--
White pine	488	--	--	75	--	--	93	--	--	20	--	--	58
White spruce	2	--	--	--	--	--	2	--	--	--	--	--	--
Black spruce	--	--	--	--	--	--	--	--	--	--	--	--	--
Balsam fir	3	--	--	--	--	--	3	--	--	--	--	--	--
Hemlock	176	--	--	--	--	--	55	--	--	--	--	--	80
Tamarack	4	--	--	--	--	--	--	--	--	--	--	--	2
Northern white-cedar	924	--	2	--	--	--	353	--	--	--	--	--	284
Other softwoods	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	1,612	--	2	75	--	--	506	1	--	20	--	--	424
Hardwoods													
White oak	5,285	106	--	1,698	819	231	--	192	190	162	174	18	--
Select red oak	4,543	238	64	629	503	261	98	54	332	122	122	25	41
Other red oak	2,630	--	--	955	880	--	--	50	29	45	5	2	--
Hickory	192	--	1	5	17	5	--	23	5	2	22	--	--
Basswood	876	35	86	155	--	18	24	34	37	--	21	--	49
Beech	300	18	5	--	--	--	117	4	--	--	--	--	35
Yellow birch	105	27	--	--	--	--	70	--	--	--	--	--	--
Hard maple	1,639	74	119	--	--	91	94	52	33	--	43	--	77
Soft maple	3,010	73	29	43	19	27	32	66	--	--	--	--	461
Elm	1,979	292	23	98	22	30	367	50	234	--	31	27	36
Ash	2,245	57	32	32	--	105	78	28	31	--	32	--	116
Cottonwood	87	--	--	15	2	--	--	2	--	--	--	--	--
Balsam poplar	37	--	--	--	--	--	35	--	--	--	--	--	--
Bigtooth aspen	777	47	--	18	26	4	41	--	--	--	--	--	104
Quaking aspen	796	35	--	37	30	2	73	12	--	--	--	--	--
Paper birch	576	--	1	--	--	--	458	10	--	--	--	--	26
Black walnut	181	--	--	--	61	--	--	--	56	--	--	2	--
Other hardwoods[2/]	999	26	--	80	650	29	5	25	26	2	60	--	2
Total	26,257	1,028	360	3,765	3,029	803	1,492	602	973	333	510	74	947
All species	27,869	1,028	362	3,840	3,029	803	1,998	603	973	353	510	74	1,371

(Table 50 continued on next page)

[1/] International 1/4-inch rule.

[2/] Includes black cherry and butternut.

(Table 50 continued)

Species group	County										
	Manitowoc	Milwaukee	Outagamie	Ozaukee	Racine	Rock	Sheboygan	Walworth	Washington	Waukesha	Winnebago
Softwoods											
Jack pine	--	--	--	--	--	--	--	--	--	--	--
Red pine	--	--	14	--	--	--	--	--	--	--	--
White pine	158	--	42	--	--	--	42	--	--	--	--
White spruce	--	--	--	--	--	--	--	--	--	--	--
Black spruce	--	--	--	--	--	--	--	--	--	--	--
Balsam fir	--	--	--	--	--	--	--	--	--	--	--
Hemlock	41	--	--	--	--	--	--	--	--	--	--
Tamarack	2	--	--	--	--	--	--	--	--	--	--
Northern white-cedar	165	--	--	113	--	--	7	--	--	--	--
Other softwoods	--	--	--	--	--	--	--	--	--	--	--
Total	366	--	56	113	--	--	49	--	--	--	--
Hardwoods											
White oak	133	--	162	10	203	367	293	150	175	138	64
Select red oak	525	--	207	--	97	36	569	171	338	71	40
Other red oak	--	--	--	--	121	495	20	28	--	--	--
Hickory	--	--	--	--	36	13	20	18	16	9	--
Basswood	98	--	120	5	--	--	158	--	34	--	2
Beech	57	--	13	1	--	--	50	--	--	--	--
Yellow birch	--	--	--	--	--	--	--	--	8	--	--
Hard maple	242	--	308	--	65	--	253	--	179	--	9
Soft maple	1,302	--	808	--	--	--	113	--	7	30	--
Elm	51	--	460	4	--	108	96	--	23	27	--
Ash	160	--	1,155	44	22	15	199	--	123	--	16
Cottonwood	54	--	--	--	--	14	--	--	--	--	--
Balsam poplar	2	--	--	--	--	--	--	--	--	--	--
Bigtooth aspen	12	--	518	--	--	--	4	--	--	--	3
Quaking aspen	39	--	561	--	--	--	7	--	--	--	--
Paper birch	44	--	35	--	--	--	2	--	--	--	--
Black walnut	--	--	--	--	--	41	--	21	--	--	--
Other hardwoods[2/]	4	--	49	--	--	31	--	8	2	--	--
Total	2,723	--	4,396	64	544	1,120	1,784	396	905	275	134
All species	3,089	--	4,452	177	544	1,120	1,833	396	905	275	134

[2/] Includes black cherry and butternut.

Table 51.--Average annual growing-stock removals on commercial forest land by species group and county, Southeast Unit, Wisconsin, 1967-1982

(In thousand cubic feet per year)

Species group	All counties	County											
		Brown	Calumet	Columbia	Dane	Dodge	Door	Fond du Lac	Green	Green Lake	Jefferson	Kenosha	Kewaunee
Softwoods													
Jack pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Red pine	--	--	--	--	--	--	--	--	--	--	--	--	--
White pine	7	--	--	--	--	--	7	--	--	--	--	--	--
White spruce	--	--	--	--	--	--	--	--	--	--	--	--	--
Black spruce	--	--	--	--	--	--	--	--	--	--	--	--	--
Balsam fir	35	--	--	--	--	--	--	--	--	--	--	--	35
Hemlock	--	--	--	--	--	--	--	--	--	--	--	--	--
Tamarack	--	--	--	--	--	--	--	--	--	--	--	--	--
Eastern redcedar	--	--	--	--	--	--	--	--	--	--	--	--	--
Northern white-cedar	502	--	--	--	--	--	369	--	--	--	--	--	133
Other softwoods	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	544	--	--	--	--	--	376	--	--	--	--	--	168
Hardwoods													
White oak	545	--	--	286	55	--	--	60	--	--	39	--	--
Select red oak	1,623	--	--	642	412	--	--	31	148	123	--	38	--
Other red oak	260	--	--	133	87	--	--	--	--	--	--	--	--
Select hickory	--	--	--	--	--	--	--	--	--	--	--	--	--
Other hickory	50	--	--	--	--	50	--	--	--	--	--	--	--
Basswood	9	--	--	--	--	--	--	--	--	--	--	9	--
Beech	--	--	--	--	--	--	--	--	--	--	--	--	--
Yellow birch	--	--	--	--	--	--	--	--	--	--	--	--	--
Hard maple	118	--	--	--	--	--	--	--	--	--	--	--	--
Soft maple	1,874	867	--	--	--	--	--	41	--	--	36	--	--
Elm	1,554	530	--	--	--	23	81	41	402	--	--	--	247
Black ash	105	--	--	--	--	--	--	--	--	--	57	--	--
White and green ash	196	--	--	--	--	--	196	--	--	--	--	--	--
Cottonwood	--	--	--	--	--	--	--	--	--	--	--	--	--
Willow	--	--	--	--	--	--	--	--	--	--	--	--	--
Hackberry	--	--	--	--	--	--	--	--	--	--	--	--	--
Balsam poplar	--	--	--	--	--	--	--	--	--	--	--	--	--
Bigtooth aspen	--	--	--	--	--	--	--	--	--	--	--	--	--
Quaking aspen	101	--	--	--	--	--	101	--	--	--	--	--	--
Paper birch	37	--	--	--	--	--	37	--	--	--	--	--	--
Black cherry	148	--	--	--	148	--	--	--	--	--	--	--	--
Black walnut	36	--	--	--	--	--	--	--	--	--	--	--	--
Butternut	--	--	--	--	--	--	--	--	--	--	--	--	--
Other hardwoods	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	6,656	1,397	--	1,061	702	73	415	173	550	123	132	47	247
All species	7,200	1,397	--	1,061	702	73	791	173	550	123	132	47	415

(Table 51 continued on next page)

(Table 51 continued)

Species group	County										
	Manitowoc	Milwaukee	Outagamie	Ozaukee	Racine	Rock	Sheboygan	Walworth	Washington	Waukesha	Winnebago
Softwoods											
Jack pine	--	--	--	--	--	--	--	--	--	--	--
Red pine	--	--	--	--	--	--	--	--	--	--	--
White pine	--	--	--	--	--	--	--	--	--	--	--
White spruce	--	--	--	--	--	--	--	--	--	--	--
Black spruce	--	--	--	--	--	--	--	--	--	--	--
Balsam fir	--	--	--	--	--	--	--	--	--	--	--
Hemlock	--	--	--	--	--	--	--	--	--	--	--
Tamarack	--	--	--	--	--	--	--	--	--	--	--
Eastern redcedar	--	--	--	--	--	--	--	--	--	--	--
Northern white-cedar	--	--	--	--	--	--	--	--	--	--	--
Other softwoods	--	--	--	--	--	--	--	--	--	--	--
Total	--	--	--	--	--	--	--	--	--	--	--
Hardwoods											
White oak	--	--	--	--	--	--	40	65	--	--	--
Select red oak	--	--	--	--	--	--	139	--	--	--	90
Other red oak	--	--	--	--	--	--	--	--	--	40	--
Select hickory	--	--	--	--	--	--	--	--	--	--	--
Other hickory	--	--	--	--	--	--	--	--	--	--	--
Basswood	--	--	--	--	--	--	--	--	--	--	--
Beech	--	--	--	--	--	--	--	--	--	--	--
Yellow birch	--	--	--	--	--	--	--	--	--	--	--
Hard maple	--	--	--	--	--	--	--	--	--	--	118
Soft maple	119	--	790	--	--	--	--	--	--	--	21
Elm	--	--	126	--	--	--	--	--	--	--	104
Black ash	48	--	--	--	--	--	--	--	--	--	--
White and green ash	--	--	--	--	--	--	--	--	--	--	--
Cottonwood	--	--	--	--	--	--	--	--	--	--	--
Willow	--	--	--	--	--	--	--	--	--	--	--
Hackberry	--	--	--	--	--	--	--	--	--	--	--
Balsam poplar	--	--	--	--	--	--	--	--	--	--	--
Bigtooth aspen	--	--	--	--	--	--	--	--	--	--	--
Quaking aspen	--	--	--	--	--	--	--	--	--	--	--
Paper birch	--	--	--	--	--	--	--	--	--	--	--
Black cherry	--	--	--	--	--	--	--	--	--	--	--
Black walnut	--	--	36	--	--	--	--	--	--	--	--
Butternut	--	--	--	--	--	--	--	--	--	--	--
Other hardwoods	--	--	--	--	--	--	--	--	--	--	--
Total	167	--	952	--	--	--	179	65	--	40	333
All species	167	--	952	--	--	--	179	65	--	40	333

Table 52.--Average annual sawtimber removals on commercial forest land by species group and county, Southeast Unit, Wisconsin, 1967-1982

(In thousand board feet per year)[1/]

Species group	All counties	County											
		Brown	Calumet	Columbia	Dane	Dodge	Door	Fond du Lac	Green	Green Lake	Jefferson	Kenosha	Kewaunee
Softwoods													
Jack pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Red pine	--	--	--	--	--	--	--	--	--	--	--	--	--
White pine	36	--	--	--	--	--	36	--	--	--	--	--	--
White spruce	--	--	--	--	--	--	--	--	--	--	--	--	--
Black spruce	--	--	--	--	--	--	--	--	--	--	--	--	--
Balsam fir	--	--	--	--	--	--	--	--	--	--	--	--	--
Hemlock	--	--	--	--	--	--	--	--	--	--	--	--	--
Tamarack	--	--	--	--	--	--	--	--	--	--	--	--	--
Eastern redcedar	--	--	--	--	--	--	--	--	--	--	--	--	--
Northern white-cedar	305	--	--	--	--	--	145	--	--	--	--	--	160
Other softwoods	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	341	--	--	--	--	--	181	--	--	--	--	--	160
Hardwoods													
White oak	2,725	--	--	1,425	283	--	--	306	--	--	191	--	--
Select red oak	8,128	--	--	3,152	2,051	--	--	166	760	619	--	188	--
Other red oak	847	--	--	643	--	--	--	--	--	--	--	--	--
Select hickory	--	--	--	--	--	--	--	--	--	--	--	--	--
Other hickory	241	--	--	--	--	241	--	--	--	--	--	--	--
Basswood	--	--	--	--	--	--	--	--	--	--	--	--	--
Beech	--	--	--	--	--	--	--	--	--	--	--	--	--
Yellow birch	--	--	--	--	--	--	--	--	--	--	--	--	--
Hard maple	--	--	--	--	--	--	--	--	--	--	--	--	--
Soft maple	8,721	4,294	--	--	--	--	--	209	--	--	--	--	--
Elm	6,680	2,329	--	--	--	--	371	--	1,784	--	--	--	1,133
Black ash	297	--	--	--	--	--	--	--	--	--	297	--	--
White and green ash	922	--	--	--	--	--	922	--	--	--	--	--	--
Cottonwood	--	--	--	--	--	--	--	--	--	--	--	--	--
Willow	--	--	--	--	--	--	--	--	--	--	--	--	--
Hackberry	--	--	--	--	--	--	--	--	--	--	--	--	--
Balsam poplar	--	--	--	--	--	--	--	--	--	--	--	--	--
Bigtooth aspen	--	--	--	--	--	--	--	--	--	--	--	--	--
Quaking aspen	--	--	--	--	--	--	--	--	--	--	--	--	--
Paper birch	--	--	--	--	--	--	--	--	--	--	--	--	--
Black cherry	639	--	--	--	639	--	--	--	--	--	--	--	--
Black walnut	185	--	--	--	--	--	--	--	--	--	--	--	--
Butternut	--	--	--	--	--	--	--	--	--	--	--	--	--
Other hardwoods	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	29,385	6,623	--	5,220	2,973	241	1,293	681	2,544	619	488	188	1,133
All species	29,726	6,623	--	5,220	2,973	241	1,474	681	2,544	619	488	188	1,293

(Table 52 continued on next page)

[1/] International 1/4-inch rule.

(Table 52 continued)

Species group	County										
	Manitowoc	Milwaukee	Outagamie	Ozaukee	Racine	Rock	Sheboygan	Walworth	Washington	Waukesha	Winnebago
Softwoods											
Jack pine	--	--	--	--	--	--	--	--	--	--	--
Red pine	--	--	--	--	--	--	--	--	--	--	--
White pine	--	--	--	--	--	--	--	--	--	--	--
White spruce	--	--	--	--	--	--	--	--	--	--	--
Black spruce	--	--	--	--	--	--	--	--	--	--	--
Balsam fir	--	--	--	--	--	--	--	--	--	--	--
Hemlock	--	--	--	--	--	--	--	--	--	--	--
Tamarack	--	--	--	--	--	--	--	--	--	--	--
Eastern redcedar	--	--	--	--	--	--	--	--	--	--	--
Northern white-cedar	--	--	--	--	--	--	--	--	--	--	--
Other softwoods	--	--	--	--	--	--	--	--	--	--	--
Total	--	--	--	--	--	--	--	--	--	--	--
Hardwoods											
White oak	--	--	--	--	--	--	195	325	--	--	--
Select red oak	--	--	--	--	--	--	738	--	--	--	454
Other red oak	--	--	--	--	--	--	--	--	--	204	--
Select hickory	--	--	--	--	--	--	--	--	--	--	--
Other hickory	--	--	--	--	--	--	--	--	--	--	--
Basswood	--	--	--	--	--	--	--	--	--	--	--
Beech	--	--	--	--	--	--	--	--	--	--	--
Yellow birch	--	--	--	--	--	--	--	--	--	--	--
Hard maple	--	--	--	--	--	--	--	--	--	--	--
Soft maple	514	--	3,704	--	--	--	--	--	--	--	--
Elm	--	--	589	--	--	--	--	--	--	--	474
Black ash	--	--	--	--	--	--	--	--	--	--	--
White and green ash	--	--	--	--	--	--	--	--	--	--	--
Cottonwood	--	--	--	--	--	--	--	--	--	--	--
Willow	--	--	--	--	--	--	--	--	--	--	--
Hackberry	--	--	--	--	--	--	--	--	--	--	--
Balsam poplar	--	--	--	--	--	--	--	--	--	--	--
Bigtooth aspen	--	--	--	--	--	--	--	--	--	--	--
Quaking aspen	--	--	--	--	--	--	--	--	--	--	--
Paper birch	--	--	--	--	--	--	--	--	--	--	--
Black cherry	--	--	--	--	--	--	--	--	--	--	--
Black walnut	--	--	185	--	--	--	--	--	--	--	--
Butternut	--	--	--	--	--	--	--	--	--	--	--
Other hardwoods	--	--	--	--	--	--	--	--	--	--	--
Total	514	--	4,478	--	--	--	933	325	--	204	928
All species	514	--	4,478	--	--	--	933	325	--	204	928

Table 53.--Timber removals from growing stock and sawtimber on commercial forest land by species group, Southeast Unit, Wisconsin, 1967 and 1982

Species group	Growing stock		Sawtimber	
	1967	1982	1967	1982
	Thousand cubic feet		Thousand board feet[1]	
Softwoods				
Jack pine	62	18	176	--
Red pine	29	156	80	15
White pine	132	106	763	488
White spruce	14	[2]	57	2
Black spruce	3	--	14	--
Balsam fir	13	1	49	3
Hemlock	64	36	368	176
Tamarack	24	1	53	4
Northern white-cedar	260	540	712	924
Other softwoods	--	--	--	--
Total	601	858	2,272	1,612
Hardwoods				
White oak	1,084	1,318	4,687	5,285
Select red oak	1,323	1,027	6,265	4,543
Other red oak	490	757	1,789	2,630
Hickory	100	73	258	192
Basswood	394	220	1,805	876
Beech	130	79	558	300
Yellow birch	6	41	45	105
Hard maple	656	497	2,905	1,639
Soft maple	953	726	4,636	3,010
Elm	2,116	562	9,844	1,979
Ash	468	663	1,618	2,245
Cottonwood	174	19	889	87
Balsam poplar	12	11	12	37
Bigtooth aspen	89	157	319	777
Quaking aspen	282	381	589	796
Paper birch	83	265	196	576
Black walnut	21	35	141	181
Other hardwoods[3]	81	393	245	999
Total	8,462	7,224	36,801	26,257
All species	9,063	8,082	39,073	27,869

[1] International 1/4-inch rule.

[2] Less than 500 cubic feet.

[3] Includes black cherry and butternut.

Table 54.--Timber removals from growing stock and sawtimber on commercial forest land by item and species category, Southeast Unit, Wisconsin, 1982

Item	Growing stock						Sawtimber					
	All species	Pine	Other softwoods	Aspen	Oak	Other hardwoods	All species	Pine	Other softwoods	Aspen	Oak	Other hardwoods
	Thousand cubic feet						Thousand board feet[1]					
Roundwood products												
Pulpwood[2]	312	177	--	39	50	46	306	32	--	89	117	68
Saw logs	3,410	89	120	126	1,732	1,343	17,404	429	531	629	9,220	6,595
Fuelwood	2,304	[3]	2	261	858	1,183	6,284	1	7	844	2,034	3,398
Posts	469	--	211	--	39	219	762	--	210	--	84	468
Veneer logs	55	--	--	--	23	32	356	--	--	--	149	207
Poles	[3]	--	--	--	[3]	--	1	--	--	--	1	--
Other	[3]	--	--	--	[3]	--	58	--	--	--	58	--
Total	6,558	266	333	426	2,710	2,823	25,171	462	748	1,562	11,663	10,736
Logging residue	466	8	36	12	234	176	1,286	9	94	11	661	511
Other removals	1,058	6	209	100	158	585	1,412	32	267	--	134	979
All removals	8,082	280	578	538	3,102	3,584	27,869	503	1,109	1,573	12,458	12,226

[1] International 1/4-inch rule.

[2] Includes particleboard and waferboard bolts.

[3] Less than 500 cubic feet.

Table 55.--Annual mortality of growing stock on commercial forest land by softwoods and hardwoods, Southeast Unit, Wisconsin, 1967 and 1982

(In thousand cubic feet)

Species	1967[1/]	1982
Softwoods	400	677
Hardwoods	6,800	8,639
Total	7,200	9,316

[1/] Figures have been adjusted from those published after the 1968 survey to conform to 1982 volumes because of changes in survey procedures and volume equations.

Table 56.--Annual mortality of growing stock on commercial forest land by species group and cause, Southeast Unit, Wisconsin, 1982

(In thousand cubic feet)

Species group	All causes	Cause						
		Insects	Disease	Fire	Animals	Weather	Suppression	Unknown and other
Softwoods								
Jack pine	14	--	--	--	--	--	--	14
Red pine	--	--	--	--	--	--	--	--
White pine	76	--	--	--	--	--	--	76
White spruce	7	--	--	--	--	7	--	--
Black spruce	--	--	--	--	--	--	--	--
Balsam fir	11	--	--	--	--	11	--	--
Hemlock	1	--	--	--	--	--	--	1
Tamarack	213	--	9	--	--	--	--	204
Eastern redcedar	--	--	--	--	--	--	--	--
Northern white-cedar	355	--	--	--	--	136	--	219
Other softwoods	--	--	--	--	--	--	--	--
Total	677	--	9	--	--	154	--	514
Hardwoods								
White oak	117	--	1	--	--	--	1	115
Select red oak	399	--	58	--	--	6	--	335
Other red oak	282	--	56	--	--	25	--	201
Select hickory	49	--	--	--	--	--	--	49
Other hickory	--	--	--	--	--	--	--	--
Basswood	96	--	15	--	1	--	--	80
Beech	242	--	9	--	--	--	--	233
Yellow birch	73	--	--	--	--	--	--	73
Hard maple	216	--	9	--	1	--	--	206
Soft maple	219	--	1	--	--	1	1	216
Elm	4,763	--	3,485	--	--	4	8	1,266
Black ash	337	--	1	--	--	--	--	336
White & green ash	107	--	1	--	--	2	--	104
Cottonwood	6	--	3	--	--	--	--	3
Willow	78	--	9	--	--	--	--	69
Hackberry	--	--	--	--	--	--	--	--
Balsam poplar	91	--	4	--	--	--	--	87
Bigtooth aspen	252	--	24	--	--	--	--	228
Quaking aspen	892	--	253	--	--	37	14	588
Paper birch	151	--	29	--	--	73	--	49
River birch	--	--	--	--	--	--	--	--
Black cherry	162	--	27	--	--	--	2	133
Black walnut	17	--	3	--	--	--	--	14
Butternut	55	--	--	--	--	--	--	55
Other hardwoods	35	--	1	--	--	--	--	34
Total	8,639	--	3,989	--	2	148	26	4,474
All species	9,316	--	3,998	--	2	302	26	4,988

Table 57.--Annual mortality of sawtimber on commercial forest land by species group and cause, Southeast Unit, Wisconsin, 1982

(In thousand board feet)[1/]

Species group	All causes	Cause						
		Insects	Disease	Fire	Animals	Weather	Suppression	Unknown and other
Softwoods								
Jack pine	--	--	--	--	--	--	--	--
Red pine	--	--	--	--	--	--	--	--
White pine	383	--	--	--	--	--	--	383
White spruce	12	--	--	--	--	12	--	--
Black spruce	--	--	--	--	--	--	--	--
Balsam fir	3	--	--	--	--	--	--	3
Hemlock	2	--	--	--	--	--	--	2
Tamarack	192	--	6	--	--	--	--	186
Eastern redcedar	--	--	--	--	--	--	--	--
Northern white-cedar	1,075	--	--	--	2	648	--	425
Other softwoods	--	--	--	--	--	--	--	--
Total	1,667	--	6	--	2	660	--	999
Hardwoods								
White oak	428	--	9	--	--	--	5	414
Select red oak	1,233	--	141	--	--	29	--	1,063
Other red oak	763	--	124	--	--	--	--	639
Select hickory	185	--	5	--	--	--	--	180
Other hickory	--	--	--	--	--	--	--	--
Basswood	216	--	66	--	8	--	--	142
Beech	984	--	47	--	--	--	--	937
Yellow birch	184	--	--	--	--	--	--	184
Hard maple	787	--	21	--	3	--	--	763
Soft maple	681	--	4	--	--	4	--	673
Elm	17,475	--	12,929	--	--	--	--	4,546
Black ash	178	--	--	--	--	--	--	178
White & green ash	410	--	6	--	--	3	--	401
Cottonwood	17	--	11	--	--	--	--	6
Willow	189	--	3	--	--	--	--	186
Hackberry	--	--	--	--	--	--	--	--
Balsam poplar	383	--	--	--	--	--	--	383
Bigtooth aspen	646	--	80	--	--	--	--	566
Quaking aspen	1,186	--	399	--	--	93	--	694
Paper birch	243	--	72	--	--	61	--	110
River birch	--	--	--	--	--	--	--	--
Black cherry	433	--	104	--	--	--	--	329
Black walnut	41	--	11	--	--	--	--	30
Butternut	15	--	--	--	--	--	--	15
Other hardwoods	96	--	4	--	--	--	--	92
Total	26,773	--	14,036	--	11	190	5	12,531
All species	28,440	--	14,042	--	13	850	5	13,530

[1/] International 1/4-inch rule.

Table 58.--Annual mortality of growing stock and sawtimber on commercial forest land by county and softwoods and hardwoods, Southeast Unit, Wisconsin, 1982

County	Growing stock			Sawtimber		
	All species	Softwoods	Hardwoods	All species	Softwoods	Hardwoods
	Thousand cubic feet			Thousand board feet[1]		
Brown	773	--	773	2,628	--	2,628
Calumet	176	7	169	662	34	628
Columbia	748	3	745	1,621	--	1,621
Dane	319	16	303	1,012	26	986
Dodge	167	--	167	491	--	491
Door	954	142	812	2,424	399	2,025
Fond du Lac	238	4	234	741	18	723
Green	612	--	612	2,481	--	2,481
Green Lake	141	36	105	205	--	205
Jefferson	293	--	293	737	--	737
Kenosha	17	--	17	68	2	66
Kewaunee	476	56	420	1,486	102	1,384
Manitowoc	1,418	148	1,270	5,537	678	4,859
Outagamie	1,122	121	1,001	3,675	395	3,280
Ozaukee	441	98	343	1,081	--	1,081
Racine	31	--	31	61	--	61
Rock	154	--	154	300	--	300
Sheboygan	298	6	292	594	13	581
Walworth	139	--	139	207	--	207
Washington	542	40	502	1,565	--	1,565
Waukesha	128	--	128	597	--	597
Winnebago	129	--	129	267	--	267
All counties	9,316	677	8,639	28,440	1,667	26,773

[1] International 1/4-inch rule.

Table 59.--Annual mortality of growing stock and sawtimber on commercial forest land by ownership class and softwoods and hardwoods, Southeast Unit, Wisconsin, 1982

Ownership class	Growing stock			Sawtimber		
	All species	Softwoods	Hardwoods	All species	Softwoods	Hardwoods
	Thousand cubic feet			Thousand board feet[1]		
National Forest	--	--	--	--	--	--
Miscellaneous federal	89	--	89	234	--	234
State	831	23	808	2,241	20	2,221
County and municipal	103	--	103	384	--	384
Indian	--	--	--	--	--	--
Forest industry	328	64	264	1,115	114	1,001
Farmer	4,184	175	4,009	13,387	417	12,970
Misc. private-corp.	616	45	571	1,883	94	1,789
Misc. private-indiv.	3,165	370	2,795	9,196	1,022	8,174
All owners	9,316	677	8,639	28,440	1,667	26,773

[1] International 1/4-inch rule.

Table 60.--Output of timber products by product, softwoods and hardwoods, and source of material, Southeast Unit, Wisconsin, 1981

Product	Standard units	Total		Roundwood products				Plant byproducts	
				Growing stock		Non-growing stock			
		No. of units	Thousand cubic feet	No. of units	Thousand cubic feet	No. of units	Thousand cubic feet	No. of units	Thousand cubic feet
Pulpwood[1]									
Softwoods	Standard[2]	8,150	635	2,279	177	4,224	328	1,647	130
Hardwoods	cords	12,953	1,019	1,747	135	492	38	10,714	846
Total		21,103	1,654	4,026	312	4,716	366	12,361	976
Saw logs									
Softwoods	Thousand[3]	1,344	239	1,175	209	169	30	--	--
Hardwoods	board feet	21,855	3,786	18,478	3,201	3,377	585	--	--
Total		23,199	4,025	19,653	3,410	3,546	615	--	--
Veneer logs									
Softwoods	Thousand[3]	--	--	--	--	--	--	--	--
Hardwoods	board feet	443	65	375	55	68	10	--	--
Total		443	65	375	55	68	10	--	--
Fuelwood									
Softwoods	Standard[2]	11,286	788	29	2	10,270	717	987	69
Hardwoods	cords	465,803	32,571	32,922	2,302	424,438	29,678	8,443	591
Total		477,089	33,359	32,951	2,304	434,708	30,395	9,430	660
Posts									
Softwoods	Thousand	225	231	206	211	19	20	--	--
Hardwoods	pieces	422	422	258	258	164	164	--	--
Total		647	653	464	469	183	184	--	--
Poles									
Softwoods	Pieces	--	--	--	--	--	--	--	--
Hardwoods		25	[5]	25	[5]	--	--	--	--
Total		25	[5]	25	[5]	--	--	--	--
Other[4]									
Softwoods	Thousand	97	97	--	--	--	--	97	97
Hardwoods	cubic feet	889	889	8	8	--	--	881	881
Total		986	986	8	8	--	--	978	978
All products									
Softwoods	Thousand	--	1,990	--	599	--	1,095	--	296
Hardwoods	cubic feet	--	38,752	--	5,959	--	30,475	--	2,318
Total		--	40,742	--	6,558	--	31,570	--	2,614

[1] Includes roundwood and plant byproducts used for particleboard and waferboard.

[2] 128 cubic feet; includes wood, bark, and air space.

[3] International 1/4-inch rule.

[4] Other (industrial production) includes cabin logs, charcoal wood, shingle bolts, pilings, etc.

[5] Less than 500 cubic feet.

Table 61.--Output of roundwood products by product, softwoods and hardwoods, and source of material, Southeast Unit, Wisconsin, 1981

(In thousand cubic feet)

Product and species group	All sources	Growing-stock trees			Rough and rotten trees	Salvable dead trees	Other sources
		Total	Sawtimber	Poletimber			
Industrial products							
Saw logs							
Softwoods	239	209	194	15	--	--	30
Hardwoods	3,786	3,201	2,912	289	81	335	169
Subtotal	4,025	3,410	3,106	304	81	335	199
Veneer logs and bolts							
Softwoods	--	--	--	--	--	--	--
Hardwoods	65	55	55	--	10	--	--
Subtotal	65	55	55	--	10	--	--
Pulpwood[1/]							
Softwoods	505	177	87	90	57	36	235
Hardwoods	173	135	73	62	18	8	12
Subtotal	678	312	160	152	75	44	247
Cooperage							
Softwoods	--	--	--	--	--	--	--
Hardwoods	8	8	8	--	--	--	--
Subtotal	8	8	8	--	--	--	--
Piling							
Softwoods	--	--	--	--	--	--	--
Hardwoods	--	--	--	--	--	--	--
Subtotal	--	--	--	--	--	--	--
Poles							
Softwoods	--	--	--	--	--	--	--
Hardwoods	2/	2/	2/	--	--	--	--
Subtotal	2/	2/	2/	--	--	--	--
Posts (Round and split)							
Softwoods	231	211	57	154	3	--	17
Hardwoods	422	258	108	150	82	--	82
Subtotal	653	469	165	304	85	--	99
Other							
Softwoods	--	--	--	--	--	--	--
Hardwoods	--	--	--	--	--	--	--
Subtotal	--	--	--	--	--	--	--
All industrial products							
Softwoods	975	597	338	259	60	36	282
Hardwoods	4,454	3,657	3,156	501	191	343	263
Total	5,429	4,254	3,494	760	251	379	545
Fuelwood							
Softwoods	719	2	1	1	2	124	591
Hardwoods	31,980	2,302	1,427	875	457	15,274	13,947
Total	32,699	2,304	1,428	876	459	15,398	14,538
All products							
Softwoods	1,694	599	339	260	62	160	873
Hardwoods	36,434	5,959	4,583	1,376	648	15,617	14,210
Total	38,128	6,558	4,922	1,636	710	15,777	15,083

1/ Includes particleboard and waferboard bolts.

2/ Less than 500 cubic feet.

Table 62.--Timber products from roundwood by species group and product, Southeast Unit, Wisconsin, 1981

Species group	All products	Pulpwood[1]		Saw logs		Veneer logs	
	Thousand cubic feet	Standard cords[2]	Thousand cubic feet	Thousand board feet[3]	Thousand cubic feet	Thousand board feet[3]	Thousand cubic feet
Softwoods							
Jack pine	53	331	25	--	--	--	--
Red pine	483	5,982	467	72	11	--	--
White pine	617	190	13	590	99	--	--
White spruce	1	--	--	5	[4]	--	--
Black spruce	--	--	--	--	--	--	--
Balsam fir	22	--	--	7	1	--	--
Hemlock	49	--	--	245	41	--	--
Tamarack	43	--	--	8	1	--	--
Northern white-cedar	426	--	--	417	86	--	--
Other softwoods	--	--	--	--	--	--	--
Total	1,694	6,503	505	1,344	239	--	--
Hardwoods							
White oak	5,144	267	22	4,533	788	23	3
Select red oak	4,237	318	25	3,490	609	78	12
Other red oak	3,139	235	18	2,586	451	57	9
Hickory	511	--	--	188	27	--	--
Basswood	864	--	--	1,087	190	--	--
Beech	153	13	[4]	291	49	--	--
Yellow birch	192	4	[4]	13	2	23	3
Hard maple	2,625	178	14	1,645	267	54	8
Soft maple	1,502	114	9	2,993	527	37	6
Elm	10,044	179	14	1,008	176	97	12
Ash	1,696	132	10	1,680	300	--	--
Cottonwood	263	--	--	680	114	34	6
Balsam poplar	39	--	--	98	16	--	--
Bigtooth aspen	432	179	14	244	42	--	--
Quaking aspen	882	364	28	498	87	--	--
Paper birch	996	208	16	235	41	6	1
Black walnut	53	--	--	219	35	34	5
Other hardwoods[5]	3,662	48	3	367	65	--	--
Total	36,434	2,239	173	21,855	3,786	443	65
All species	38,128	8,742	678	23,199	4,025	443	65

(Table 62 continued on next page)

[1] Includes particleboard and waferboard bolts.

[2] 128 cubic feet; includes wood, bark, and air space.

[3] International 1/4-inch rule.

[4] Less than 500 cubic feet.

[5] Includes butternut and black cherry.

(Table 62 continued)

Species group	Fuelwood		Posts		Poles		Other products
	Standard cords [2]	Thousand cubic feet	Thousand pieces	Thousand cubic feet	Pieces	Thousand cubic feet	Thousand cubic feet
Softwoods							
Jack pine	422	28	--	--	--	--	--
Red pine	83	5	--	--	--	--	--
White pine	7,201	505	--	--	--	--	--
White spruce	11	1	--	--	--	--	--
Black spruce	--	--	--	--	--	--	--
Balsam fir	310	21	--	--	--	--	--
Hemlock	106	8	--	--	--	--	--
Tamarack	601	42	--	--	--	--	--
Northern white-cedar	1,565	109	225	231	--	--	--
Other softwoods	--	--	--	--	--	--	--
Total	10,299	719	225	231	--	--	--
Hardwoods							
White oak	60,941	4,265	58	58	--	--	8
Select red oak	51,328	3,588	3	3	14	4/	--
Other red oak	38,027	2,658	3	3	11	4/	--
Hickory	6,928	484	--	--	--	--	--
Basswood	9,655	674	--	--	--	--	--
Beech	1,476	104	--	--	--	--	--
Yellow birch	2,703	187	--	--	--	--	--
Hard maple	33,456	2,336	--	--	--	--	--
Soft maple	13,796	960	--	--	--	--	--
Elm	140,624	9,842	--	--	--	--	--
Ash	19,843	1,386	--	--	--	--	--
Cottonwood	2,067	143	--	--	--	--	--
Balsam poplar	308	23	--	--	--	--	--
Bigtooth aspen	5,369	376	--	--	--	--	--
Quaking aspen	10,962	767	--	--	--	--	--
Paper birch	13,413	938	--	--	--	--	--
Black walnut	191	13	--	--	--	--	--
Other hardwoods [5]	46,273	3,236	358	358	--	--	--
Total	457,360	31,980	422	422	25	4/	8
All species	467,659	32,699	647	653	25	4/	8

[2] 128 cubic feet; includes wood, bark, and air space.

[4] Less than 500 cubic feet.

[5] Includes butternut and black cherry.

Table 63.--Volume of primary plant residue by use and type of residue, Southeast Unit, Wisconsin, 1981

(In thousand cubic feet)

Use	Wood residue						Bark [3]	
	Total		Coarse [1]		Fine [2]			
	Softwoods	Hardwoods	Softwoods	Hardwoods	Softwoods	Hardwoods	Softwoods	Hardwoods
Fiber products [4]	84.6	619.0	84.6	619.0	--	--	--	--
Charcoal	--	--	--	--	--	--	--	--
Industrial fuel	29.6	223.7	27.5	108.6	2.1	115.1	62.2	326.4
Domestic fuel	39.5	367.3	39.4	367.0	0.1	0.3	18.7	208.3
Miscellaneous [5]	97.2	881.2	8.5	199.1	88.7	682.1	13.8	290.3
Not used [6]	2.9	32.1	0.3	16.0	2.6	16.1	2.6	38.6
Total	253.8	2,123.3	160.3	1,309.7	93.5	813.6	97.3	863.6

[1] Suitable for chipping such as slabs, edgings, veneer cores, etc.

[2] Not suitable for chipping such as sawdust, veneer clippings, etc.

[3] Does not include bark disposal at pulpmills.

[4] For manufacture of pulp, hardboard, or roofing felt.

[5] Livestock bedding, mulch, small dimension, and specialty items.

[6] Includes residue burned as waste.

Table 64.--All live tree biomass on commercial forest land by species group and forest type, Southeast Unit, Wisconsin, 1983

(In green tons)

Species group	All types	Forest type							
		Jack pine	Red pine	White pine	Balsam fir	White spruce	Black spruce	Northern white-cedar	Tamarack
Softwoods									
Jack pine	146,980	76,773	--	--	--	--	--	--	--
Red pine	933,541	24,273	754,224	137,634	--	11,150	--	--	--
White pine	813,884	9,376	--	465,443	--	--	49,825	41,742	10,473
White spruce	158,871	--	--	6,643	--	82,174	--	23,561	--
Black spruce	78,810	--	--	--	--	--	52,422	26,388	--
Balsam fir	226,519	--	--	--	--	--	--	158,212	--
Hemlock	152,990	--	--	--	--	--	--	22,875	--
Tamarack	512,922	--	--	--	--	--	--	192,648	189,722
Eastern redcedar	166,393	--	13,269	--	--	--	--	--	--
Northern white-cedar	2,872,254	--	--	--	--	--	--	1,976,446	--
Other softwoods	14,226	--	--	14,226	--	--	--	--	--
Total	6,077,390	110,422	767,493	623,946	--	93,324	102,247	2,441,872	200,195
Hardwoods									
White oak	8,732,065	--	26,288	--	--	--	--	10,695	--
Select red oak	5,325,897	--	--	--	--	--	--	--	--
Other red oak	4,122,667	--	58,800	--	--	--	--	--	--
Select hickory	2,592,184	--	--	--	--	--	--	11,500	--
Other hickory	604,443	--	--	--	--	--	--	8,613	--
Basswood	1,794,940	--	--	--	--	--	--	54,693	--
Beech	978,463	--	--	--	--	--	--	--	--
Yellow birch	603,828	--	--	--	--	--	--	98,760	--
Hard maple	4,758,212	--	--	--	--	--	--	12,867	--
Soft maple	3,472,302	14,721	--	--	--	26,383	--	43,945	--
Elm	3,372,270	--	--	25,047	--	--	--	75,441	32,858
Black ash	2,390,047	--	--	--	--	--	--	119,516	22,574
White & green ash	4,232,979	--	--	--	--	13,758	--	13,737	--
Cottonwood	269,482	--	--	--	--	--	--	--	--
Willow	1,032,395	--	--	--	--	--	--	21,581	--
Hackberry	42,406	--	--	--	--	--	--	--	--
Balsam poplar	165,614	--	--	--	--	--	--	--	--
Bigtooth aspen	939,714	--	--	10,570	--	--	--	--	--
Quaking aspen	2,742,731	--	1,842	--	--	--	14,209	245,171	--
Paper birch	1,359,113	--	--	--	--	--	--	218,136	16,980
River birch	--	--	--	--	--	--	--	--	--
Black cherry	3,066,733	--	4,836	14,639	--	--	--	--	--
Black walnut	371,566	--	--	3,619	--	--	--	--	--
Butternut	163,122	--	--	--	--	--	--	--	--
Other hardwoods	1,367,443	--	--	--	--	--	--	--	--
Noncommercial species	1,531,029	--	--	5,188	--	--	--	6,283	--
Total	56,031,645	14,721	91,766	59,063	--	40,141	14,209	940,938	72,412
All species	62,109,035	125,143	859,259	683,009	--	133,465	116,456	3,382,810	272,607

(Table 64 continued on next page)

(Table 64 continued)

Species group	Forest type						
	Oak-hickory	Elm-ash-soft maple	Maple-birch	Aspen	Paper birch	Exotics	Nonstocked
Softwoods							
Jack pine	70,207	--	--	--	--	--	--
Red pine	6,260	--	--	--	--	--	--
White pine	39,837	7,556	163,388	22,146	--	--	4,098
White spruce	14,516	31,977	--	--	--	--	--
Black spruce	--	--	--	--	--	--	--
Balsam fir	--	14,236	23,418	30,653	--	--	--
Hemlock	--	87,349	28,637	14,129	--	--	--
Tamarack	--	82,226	--	18,430	29,896	--	--
Eastern redcedar	68,214	84,910	--	--	--	--	--
Northern white-cedar	--	517,389	281,491	64,419	32,509	--	--
Other softwoods	--	--	--	--	--	--	--
Total	199,034	825,643	496,934	149,777	62,405	--	4,098
Hardwoods							
White oak	7,579,197	196,402	793,616	125,867	--	--	--
Select red oak	4,248,962	89,090	934,446	53,399	--	--	--
Other red oak	3,736,567	19,898	98,260	209,142	--	--	--
Select hickory	1,929,200	--	588,561	62,923	--	--	--
Other hickory	413,077	--	182,753	--	--	--	--
Basswood	394,061	106,689	1,219,612	--	19,885	--	--
Beech	--	11,429	967,034	--	--	--	--
Yellow birch	--	297,661	207,407	--	--	--	--
Hard maple	305,288	67,802	4,326,215	46,040	--	--	--
Soft maple	201,154	2,054,197	1,054,004	77,898	--	--	--
Elm	452,730	1,101,864	1,572,177	58,988	40,060	--	13,105
Black ash	49,657	1,837,626	316,510	44,164	--	--	--
White & green ash	338,511	1,804,973	1,976,572	66,018	19,410	--	--
Cottonwood	86,206	167,146	--	16,130	--	--	--
Willow	42,993	788,611	149,730	29,480	--	--	--
Hackberry	42,406	--	--	--	--	--	--
Balsam poplar	--	66,390	58,268	40,956	--	--	--
Bigtooth aspen	406,617	62,199	361,469	98,859	--	--	--
Quaking aspen	320,173	427,496	221,144	1,506,029	6,667	--	--
Paper birch	125,088	350,359	328,102	164,225	156,223	--	--
River birch	--	--	--	--	--	--	--
Black cherry	1,709,674	6,865	1,084,367	246,352	--	--	--
Black walnut	329,666	--	38,281	--	--	--	--
Butternut	22,725	20,234	120,163	--	--	--	--
Other hardwoods	237,704	540,225	582,212	7,302	--	--	--
Noncommercial species	384,182	174,903	853,562	59,438	16,625	--	30,848
Total	23,355,838	10,192,059	18,034,465	2,913,210	258,870	--	43,953
All species	23,554,872	11,017,702	18,531,399	3,062,987	321,275	--	48,051

Table 65.--All live tree biomass by species group and tree biomass component, Southeast Unit, Wisconsin, 1983

(In green tons)

Species group	All components	Biomass component: All live 1- to 5-inch trees	Growing stock: Boles	Growing stock: Tops and limbs	Cull: Boles	Cull: Tops and limbs
Softwoods						
Jack pine	146,980	26,789	84,380	35,811	--	--
Red pine	933,541	151,472	534,429	229,690	12,570	5,380
White pine	813,884	217,539	406,148	172,166	12,694	5,337
White spruce	158,871	18,899	99,088	40,884	--	--
Black spruce	78,810	54,454	17,243	7,113	--	--
Balsam fir	226,519	145,922	57,071	23,526	--	--
Hemlock	152,990	6,287	86,896	35,576	17,184	7,047
Tamarack	512,922	100,401	282,464	119,477	7,438	3,142
Eastern redcedar	166,393	78,360	40,186	16,323	27,931	3,593
Northern white-cedar	2,872,254	548,515	1,434,066	584,036	224,478	81,159
Other softwoods	14,226	--	10,069	4,157	--	--
Total	6,077,390	1,348,638	3,052,040	1,268,759	302,295	105,658
Hardwoods						
White oak	8,732,065	104,036	4,451,147	1,863,064	1,637,102	676,716
Select red oak	5,325,897	205,939	2,995,071	1,276,898	594,813	253,176
Other red oak	4,122,667	66,436	2,002,377	845,953	853,719	354,182
Select hickory	2,592,184	182,087	1,384,730	585,326	309,382	130,659
Other hickory	604,443	80,177	334,431	141,970	33,640	14,225
Basswood	1,794,940	247,435	786,727	334,850	301,235	124,693
Beech	978,463	67,407	421,411	178,518	218,525	92,602
Yellow birch	603,828	35,973	272,815	112,474	128,583	53,983
Hard maple	4,758,212	330,580	2,469,288	1,051,153	635,509	271,682
Soft maple	3,472,302	288,859	1,670,934	714,957	563,900	233,652
Elm	3,372,270	510,504	1,572,362	651,377	464,529	173,498
Black ash	2,390,047	255,539	1,360,732	568,857	156,663	48,256
White & green ash	4,232,979	441,036	2,282,200	971,784	380,240	157,719
Cottonwood	269,482	--	150,418	63,635	39,216	16,213
Willow	1,032,395	12,508	423,065	178,638	296,461	121,723
Hackberry	42,406	463	29,485	12,458	--	--
Balsam poplar	165,614	12,274	86,398	37,609	20,393	8,940
Bigtooth aspen	939,714	13,020	538,627	234,507	107,093	46,467
Quaking aspen	2,742,731	453,234	1,310,173	562,970	300,680	115,674
Paper birch	1,359,113	230,011	729,070	309,198	64,159	26,675
River birch	--	--	--	--	--	--
Black cherry	3,066,733	335,842	1,333,686	569,045	596,933	231,227
Black walnut	371,566	5,757	213,680	91,034	42,815	18,280
Butternut	163,122	5,667	91,943	39,039	18,578	7,895
Other hardwoods	1,367,443	215,620	334,595	145,675	493,408	178,145
Noncommercial species	1,531,029	--	--	--	1,306,349	224,680
Total	56,031,645	4,100,404	27,245,365	11,540,989	9,563,925	3,580,962
All species	62,109,035	5,449,042	30,297,405	12,809,748	9,866,220	3,686,620

Table 66.--Sampling errors[1] for estimates smaller than the Unit totals of volume, net growth, removals, and area of commercial forest land, Southeast Unit, Wisconsin, 1983

Sampling error	Commercial forest land	Growing stock			Sawtimber		
		Inventory	Growth	Removals	Inventory	Growth	Removals
Percent	Thousand acres	Thousand cubic feet			Thousand board feet[2]		
1	158.2	30,598,243	1,947,056	11,310,044	120,623,215	7,840,265	57,077,035
2	39.5	7,649,561	486,764	2,827,511	30,155,804	1,960,066	14,269,259
3	17.6	3,399,805	216,340	1,256,672	13,402,579	871,141	6,341,893
4	9.9	1,912,390	121,691	706,878	7,538,951	490,017	3,567,315
5	6.3	1,223,930	77,882	452,402	4,824,929	313,611	2,283,081
10	1.6	305,982	19,471	113,100	1,206,232	78,403	570,770
15	0.7	135,992	8,654	50,267	536,103	34,846	253,676
20	0.4	76,496	4,868	28,275	301,558	19,601	142,693
25	0.3	48,957	3,115	18,096	192,997	12,544	91,323
50	0.1	12,239	779	4,524	48,249	3,136	22,831
100	--	3,060	195	1,131	12,062	784	5,708

[1] At the 68-percent probability level.

[2] International 1/4-inch rule.

Table 67.--Sampling errors for county totals of growing-stock volume, net growth, removals, and area of commercial forest land, Southeast Unit, Wisconsin, 1983

(Percent of estimate)

County	Commercial forest land	Growing stock		
		Inventory	Growth	Removals
Brown	1.83	23.41	35.32	87.45
Calumet	2.54	42.15	56.14	[1]
Columbia	1.37	19.08	25.07	98.63
Dane	1.32	19.61	32.43	126.79
Dodge	2.39	40.51	61.46	388.62
Door	1.22	15.97	23.97	117.00
Fond du Lac	2.16	28.28	43.12	251.37
Green	2.26	32.03	56.51	142.39
Green Lake	2.74	38.51	51.96	303.25
Jefferson	2.34	27.77	36.73	290.35
Kenosha	3.83	64.81	97.19	492.22
Kewaunee	2.07	25.73	42.22	167.36
Manitowoc	1.67	22.90	47.21	243.59
Milwaukee	[1]	[1]	[1]	[1]
Outagamie	1.49	21.48	35.86	104.55
Ozaukee	3.12	40.76	272.48	[1]
Racine	3.06	66.27	105.09	[1]
Rock	2.43	40.41	50.47	[1]
Sheboygan	1.74	26.70	37.94	250.61
Walworth	2.10	30.41	60.12	408.04
Washington	1.85	30.02	52.43	[1]
Waukesha	2.22	36.41	70.03	534.20
Winnebago	3.34	34.40	43.96	183.96
All counties	0.42	5.88	9.10	38.74

[1] There were no data in these cells.

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The fourth inventory of Wisconsin's timber resource shows that commercial forest area in the Southeast Survey Unit increased from 904 to 909 thousand acres between 1968 and 1983. During the same period growing-stock volume increased 37 percent. Highlights and statistics are presented on area, volume, growth, mortality, and removals.

KEY WORDS: Area, volume, growth, mortality, removals.